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Published Monthly, on the 20th, by Wilfred A. French, 383 Boylston Street, Boston, Mass., U. S. A.

Entered as Second-Class Matter at the Post-Office, Boston, under the act of March 3, 1879.

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Yearly Subscription-Rates: United States and Mexico, $1.50 postpaid; single copy, 15 cents. Canadian subscription, $1.85 postpaid; single copy, 20 cents. Foreign subscription, $2.25 postpaid; single copy, 1 shilling.

Agents for Great Britain, Houghtons, Ltd., 88-89 High Holborn, London, W.C., England, with whom subscriptions may be placed.

Photo-Era, The American Journal of Photography

WILFRED A. FRENCH, Ph.D., Editor and Publisher

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383 Boylston Street, Boston, Mass., U. S. A.

Cable Address, "Photoera"

116615

MARIE LEONHARD
BY WILLIAM SHEWELL ELLIS

PHOTO-ERA

The American Journal of Photography

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Vol. XXXVII **JULY, 1916** **No. 1**

How I Develop Five Hundred Plates an Evening

ORRIN CHAMPLAIN

PROBABLY one of the most difficult problems confronting the photographer who desires photographic work in quantity, which is sufficiently meritorious to satisfy his artistic sense, is how to systematize his work so that a profit may be shown at the end of the year.

Nearly every one who has attempted this difficult problem has failed on account of the great losses in time and waste of material. As the chain is no stronger than the weakest link, so it is with the three most important working-departments of the studio, i.e., the operating, which includes developing and marking the negatives; the retouching, which includes the proofing and filing of negatives; and the printing, which includes the finishing. Coöperation between these three departments is absolutely essential if one is to realize any eventual success.

In this article I am going to explain how to develop from five to eight hundred plates in an evening.

We have at our studio a darkroom entirely separate from the changing-room. We transfer the different sizes of plates, comprising 11 x 14, 8 x 10, 6½ x 8½ and 5 x 7, to their respective boxes. Each plate is numbered at the time of exposure. In our darkroom we have a sink in the shape of the letter L, with running water from faucets along its entire length. Under these faucets are three separate tanks for the three different sizes of plates most generally used, each of which contains three gallons of developer.

We prepare our developer as follows:

Stock-Solutions

A

Water	1 gallon
Potassium metabisulphite	2 ounces
Pyro	1 pound
Potassium bromide	120 grains

B

Sodium sulphite .. Hydrometer test 50

C

Sodium carbonate. Hydrometer test 30

For use, take 24 ounces of B, 20 ounces of C and 3 ounces of A, together with 300 ounces of water at a temperature not over 60°.

We take the temperature of the developer and endeavor to keep it uniform at as nearly 65° as possible. In the winter we start the developer at about 70°, and in the summer we start it at about 55°, and try to keep it so by the use of iced water and ice. In developing we use a specially prepared holder of aluminum to keep each plate about three inches from the bottom of the tank. Each tank will hold 50 plates. After loading the holders we put them in one at a time, moving them closely together. When development is partly completed, usually in about twelve minutes, we separate the dark from the light backgrounds, having the white backgrounds at one end and the dark at the other. The dark backgrounds should develop from 22 to 25 minutes and the light from 25 to 30 minutes. We then rinse and remove the plates, holders and all to the fixing-tank. In order to handle large quantities of plates it is absolutely necessary to use an acid fixing-bath, which is prepared as follows:

Water	4 gallons
Hypo	10 pounds
Sodium sulphite, anhydrous	10 ounces

When this is dissolved add slowly:

Water	168 ounces
Chrome alum	10 ounces
Sulphuric acid	1¼ ounces

After fixing for twenty minutes, the plates, still in the holders, are washed in running water for thirty minutes. Removed from this water, the plates, still in the holders, are placed upon racks and allowed to dry spontaneously. The only variation from this method of developing is that we develop in the morning after the fifteenth of June and until the fifteenth of October.

We figure that by this method of developing we have saved 33 percent in the cost of our developing-chemicals. Unless there is an extreme variation, it is hardly ever necessary to use any added accelerator or to intensify the negative. These negatives, when developed, will compare favorably with negatives that have received special treatment, and are far more uniform than it is possible to produce by the old method.

The time required for two men to develop 500 plates is three hours, as each man can watch two tanks simultaneously.

Increased Hand-Camera Efficiency

JOHN L. WELLINGTON

BY way of compensating its many advantages, the hand-camera has certain inherent disadvantages which may result in negatives that are underexposed, prints that are out of focus and composition that is regrettable — even according to the lights of the user. The lenses are of comparatively short focus, giving small images and wide angles of view, and the shutters are individualistic with regard to their speeds. Of course, there are many varieties of hand-camera. In the present article we will treat particularly the most generally used post-card-size roll-film camera.

The most uncertain part of a camera of this class is the shutter. The lenses supplied are quite satisfactory, but the shutter is often of limited usefulness. The shutter-speeds ought to range from the slowest that you can manage to hold steadily to a fiftieth or a hundredth. The most important of all these is the speed at which the opening and the closing clicks just merge into one sound. That one speed will get your best results. It is slow enough to work with when the light is not brilliant, and will put substance into the shadows; yet you will be able to hold the camera steady for it under almost all conditions. Shutter-speed markings are rarely correct. The actual speeds you must know by their work. But the markings are not of much importance so long as the speeds you require are actually to be obtained. My favorite shutter is an old one whose twenty-fifth has deteriorated to a fifth and whose fiftieth has become the click that will give a fine, deeply-graded negative at F/11 in December sunlight, with something to spare each way. I have another shutter — a diaphragm shutter — marked from 3 seconds to $\frac{1}{100}$ second, and it is practically useless because, at a point somewhere near the twenty-fifth mark, it jumps from about a fifth to its fastest speed, and the speeds between these are actually lacking; and a trip to the maker has failed to remedy the fault. It is fair to add that I have used several Compound shutters and have had no reason to doubt the approximate correctness of the markings. For real efficiency most shutters are too fast, and underexposure is the result — not hopeless underexposure, but the annoying, almost-enough kind, that denies you the well-graded negative that affords a print of richer photographic quality.

This kind of niggardly exposed negative, with its consequent overdevelopment, is so prevalent that if you give a fully exposed film to the commercial finisher he is likely to kill it for you. Almost everything he gets requires full development, and he fails to discriminate in your favor. Your film, in consequence, looks like a case of overexposure, when, in fact, it is a case of overdevelopment. The remedy, of course, is to do it yourself, which is the greatest source of efficiency.

The choice of rapid rectilinear or anastigmatic lenses, aside from the question of the difference in price, is a matter to be decided according to the results desired. But be very, very sure that you do not make the mistake of trying to get R. R. quality with an anastigmat. It may sound like an absurdity, but it is not. The anastigmat gives keen definition to the very corners of your negative — which is desirable for cases of scientific record, but which is otherwise undesirable and even unpleasant. So much has been said — quite justly — in praise of the anastigmat that a few words concerning the peculiar merits of the modest R. R. will be pertinent. This type of lens gives very good definition in the middle spaces, where you want it. At the edges and in the corners, where to most eyes extreme definition is an abomination, it is softened. The distances are diffused by having points of light less disk-like than is the case with the anastigmat. If you use stop F/11, a very useful stop differentiating the focal planes in the most agreeable manner, your plane of best definition — all the definition you could desire — shows a fine delicacy that is absolutely unattainable with the anastigmat stopped down. In general, the quality of its image is more pleasing, especially

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MISS CHAMPLAIN
ORRIN CHAMPLAIN

upon enlargement. It has a touch of the quality of the pictorial lens, just a modest hint that might pass unnoticed if it were not compared to the biting edginess of the anastigmat.

Definition, anastigmatic or otherwise, in the wrong place is an abomination. Improper judgment of distances is a prime cause of this fault. This may be on account of carelessness or by the difficulty to judge the shorter distances with sufficient accuracy. The closer the object is to the lens, the more difficult it is to get a sharp image on the film. Twenty-five feet is the most useful distance. There, figures are of significant size, and yet you are able to focus with assurance. With a little care fifteen feet will be easy, and with more care twelve. Closer than that requires keen judgment, or small stops, or measurement, and invites failure.

Inspection of your focusing-scale will make this clear, even if you have not found it out by experience. It is a matter of depth of focus, and depth of focus can be compared directly with depth of field on your focusing-scale. Most of your problems can be solved there in a practical and simple manner. Let us suppose your largest stop to be F/8 (U.S. 4). Then, by easy mathematics, depth of focus, for a confusion-circle of $\frac{1}{100}$ of an inch, will be $\frac{1}{100}$ of an inch — $\frac{8}{100}$ forward of the sharpest focus and $\frac{8}{100}$ backward from the sharpest focus; $\frac{8}{100}$ of an inch is a measurable distance. It is about the height of the capital letters printed in this text. Apply this measurement to your focusing-scale — we are presuming that the equivalent focus of your lens is $6\frac{1}{2}$ or $6\frac{3}{4}$ inches — and you can work out problems of depth-of-field at a glance. For example, you will find that this measurement is the distance, almost exactly, between the 25-feet mark and the 50-feet mark on the scale. It also measures the interval between the 25-feet mark and the 15-feet mark. This shows that if you set the pointer at 25-feet, the depth will extend from 15 feet to 50 feet. Also, if you set the focus at 15 feet, the depth will extend from a little less than 12 feet to 25 feet. At 50 feet it will extend from 25 feet to infinity, fulfilling the condition for hyperfocal distance.

Of course, the $\frac{8}{100}$-inch measure, forward and backward of sharpest focus (for definition $\frac{1}{100}$ inch, stop F/8), is constant whatever the equivalent focal length of the lens; but it is particularly applicable to those used commonly on $3\frac{1}{4}$ x $5\frac{1}{2}$ and 4 x 5 cameras, because it measures with close approximation the distances between the marks set on the focusing-scales supplied with these lenses, namely: 12, 15, 25, 50 feet, and infinity (usually behind the 100-feet mark). With this convenient fact in mind it is easy to make due allowance for smaller stops and for smaller circles of confusion.

If you are going to enlarge — and you should, to get the highest efficiency out of your hand-camera — you will find that it is better general practice to mask a goodly portion of your negative. The angle of view subtended by the whole negative is too large. A portion of it measuring 3 inches by 4, say, is more useful. To fill the whole available angle requires too close an approach to many objects, especially people. The effect is unpleasant, it is difficult to focus and usually it is much more convenient and agreeable to work at a greater distance.

Efficiency, in a sense, means using your camera under the conditions to which it is best suited. The camera under discussion does its most successful work from fifteen feet to distance, in fair light, out of doors, with stop F/11 and a slow shutter-speed. It is unsurpassed in this field both on account of the reasons mentioned and on account of its portability. It will do other work, of course, but here is its best field, where it is capable of making successes with delightful regularity; and it is a wide field comprising the most generally interesting subjects. The world of outdoors is big enough to hold something delightful for each of us no matter what his tastes. And we have to go a very little way to find it. Sunlight is healthful, brilliant and cheap.

In actual practice there is another factor that spoils definition in a small degree — more than enough to cancel the difference in defining-power between anastigmat and R. R. — the film may bulge enough to mar your focus. I have reason to believe that unsharpness has often been attributed to error in focus that really was caused by the film not lying evenly in the focal plane. In the camera I have been using this fault is plainly evident when using the largest stop (F/8). This fault diminishes rapidly in the smaller sizes. At F/11 it is negligible, furnishing another reason for the general use of that stop.

To me art is the expression of beauty in whatever form it may appear — in the home, in the shop, in daily life, in thought and work. It is something infinitely deeper and broader than the form through which it manifests itself. Its measure of beauty is directly proportioned to the sincerity of purpose and the fineness of the ideals that give it form. The conscious effort to understand and appreciate a work of art strengthens our own ideals, through whatever task comes to our hands, we may make our own life and the lives of others happier, more worthy and more beautiful.— *Ernest A. Batchelder.*

A Darkroom-Experience

MICHAEL GROSS

"THEN you lay out the trays on the table, putting your developer into the first tray, water into the middle one and the hypo-solution into the third. Do you follow me?"

Burson nodded, and the photo-supply man continued:

"You put the plate into the developer and keep it there until the highlights come through on the reverse side. Then you take the plate out, rinse it well in the water-tray and lay it in the hypo until the yellow tinge has all disappeared. Is that plain?"

Burson, eager to get home and start dabbling among the chemicals and developing-paraphernalia he had just purchased, again nodded.

"Well, that 's all there is to it, then," concluded the dealer, "except that you afterwards wash the plate for about twenty minutes and then stand it up to dry. Drop in and let me know what luck you have"— and Burson, promising that he would, grabbed up his precious package and hurried out.

Arriving home, he went directly to his room and prepared to develop the batch of plates that he had exposed the day before.

"Now, let me see," he mused, untying the package of supplies, "I guess I 'd better mix my chemicals and get my trays laid out before I darken the room. It 'll be too late to fuss around then."

Accordingly, he dug an eight-ounce graduate out of the package, rinsed it carefully and filled it with water. Then he poured in the contents of one of the M. Q. tubes the dealer had recommended. He was at a loss to know how to stir the solution until he bethought himself of the stirring-rod he had bought. A brief search brought it to light, and, after polishing it up well, lest a particle of dust might contaminate the developer, he stirred the powder until it was entirely dissolved. Having mixed the developer, Burson began to lay out the trays, only to find that the dressing-table, on which he intended to develop, was so placed in one corner of the room as to make it impossible to work on it in comfort. He pulled the table out to the center of the room, where he could get to all sides of it easily, and then arranged his trays as the dealer had instructed. In the first one he poured the developer; then he filled the middle one with water and prepared to mix the hypo-solution which was presently to fill the third tray.

Recollecting that the dealer had mentioned something about hypo and developer being deadly enemies, he carefully scoured the graduate and then, putting in two ounces of the hypo-crystals, he filled the glass with water, stirred until all was dissolved and poured the solution into the third tray.

It all went so smoothly that he could hardly refrain from smiling at having thought chemistry a hard thing to learn. He got out his ruby-lamp and, as there was no room for it on the table, he hung it from the gas-jet so that it cast its light over the three trays underneath. Then he pulled down the window-shade, locked the door and turned out the gaslight.

Everything was now in readiness, and Burson experienced a strange thrill of exhilaration as he stood under the shaft of red light and looked down on the brimming trays. The feeling quickly gave way, however, to one of dismay, as he discovered that, in the excitement, he had forgotten to bring into the darkroom the plateholders containing the results of the previous day's snap-shooting. He hurried out to where he kept his camera-case, took the plateholders out of it and in a moment was back in the darkroom again.

Drawing one of the slides, he released a plate and let it drop gently into the palm of his hand. Then, shading the surface from the rays of the lamp, he approached the first tray, quickly slid the plate into the solution so as to cover the entire surface — he recollected that the dealer had laid special emphasis on the fact that the plate had to be wholly covered at once — and then, gently rocking the tray, he waited in breathless expectation for something to happen.

A minute passed, as long, it seemed, as all eternity; then another and another, but no trace of an image greeted Burson's straining eyes. He began to rock the tray furiously, as if he suspected the picture was lurking in some corner, and was determined to shake it loose — but all without result. Finally, in desperation, he took the plate out and held it up to the light of the ruby-lamp. To his horror he saw that the film was peeling off at the edges. Immediately one of the dealer's many warnings flashed into his mind: "Don't get your developer too warm"— the words seemed to come back to him now —"or your plates will frill."

That was it. The developer was too warm. Well, the first picture was spoiled, but he would save the rest. What a fool he had been not to

have thought of the dealer's warning before he began. He threw the plate under the table and hastened into the kitchen, where he hurriedly cracked some ice and, returning to the darkroom, almost filled the tray with it.

"It 's got to work now," he muttered grimly, after he had waited a few minutes to give the ice a chance to melt. "There can't be any more spoiled ones after this."

He took out another plate and immersed it. Again he hung over the tray in breathless excitement for a few minutes, only to be disappointed again at seeing nothing appear. "Well, there 's one good thing," he exclaimed joyfully, as he held the blank plate up to the light and examined it, "I 've stopped the film from peeling off!"

"There must be something the matter with my shutter," he added, after a few minutes of vain rocking, "I 'll bet the darn thing failed to work"— and, to satisfy himself, he sacrificed the second plate, hurried outside and gave his camera a thorough overhauling. To his amazement, everything was in perfect order, and he returned to the darkroom sorely puzzled but determined to try one more plate before giving up.

The solution had become ice-cold by this time, and Burson nearly froze his fingers as he slid the third plate into it. Like its predecessors, however, it showed not the slightest inclination to reveal its latent beauties, and Burson, after five minutes of vain coaxing, reached up and lit the gas, flooding the room with light.

He glanced at the table and a groan broke from him as he noticed the cause of his thrice-repeated failure. On coming back to the darkened room with the forgotten plateholders, he had approached the table from the opposite side, and the tray he had thought was the first one was in reality the last.

He had been trying to develop his plates in the tray containing the hypo-solution.

LEARN from your mistakes, but don't cry over them.— *Elbert Hubbard.*

Parallax in Paget Plates

ARTHUR G. ELDREDGE

ONE of the faults of the separate plate- and screen-method in color-photography is the effect of parallax. When viewing the finished plate, we quickly realize that, unless the positive is at right angles to the line of vision, we shall see colors complementary to those of the subject. It is rather annoying, but becomes less evident as the transparency is moved farther away.

The parallax is caused by an appreciable separation of the color-element from the silver image of the positive sensitized. Photographic glass is always curved, being coated on the concave side; this causes a considerable separation when two are brought together. Ordinary binding or the use of glue at intervals around the edges does not overcome the separation. This allows us to see between the color-element and the positive, when viewed at an angle. In this way we see that portion of the positive which is behind the adjoining color-element. The air-space between the screen and positive causes further trouble by refracting the light out of its direct path by reason of the great difference in refractive index of glass and air. Besides causing variation of color, it diminishes the brightness of the picture as a whole. I find that the parallax may be entirely eliminated at all angles of vision by cementing color-screen to positive with Canada balsam. The refractive index of glass and balsam being nearly the same, the light is carried through both glasses nearly in a straight line, so that the black dots of the positive appear behind their respective color-elements.

Canada balsam in xylol, chloroform or benzol may be used, the chloroform solution being more desirable because of its rapid evaporation. The cementing may be done as follows: Use a very heavy solution of balsam — about the thickness of molasses in cold weather. This will harden more quickly than a thin solution. Pour a puddle of balsam about two and three-fourths inches in diameter onto the center of a lantern-slide positive, lay the color-screen down onto it — slowly, to avoid bubbles — and press together firmly until the balsam has spread to all edges. Now hold them together with a spring clothes-pin or other clip at each end. Registration will be found easily, when four clothes-pins should be put along each side. By heating in an oven for a few hours, at a temperature of 100°, the balsam is more quickly hardened. When hard enough to prevent slipping, which may be two or three days, put under quite heavy pressure for a few days and then bind.

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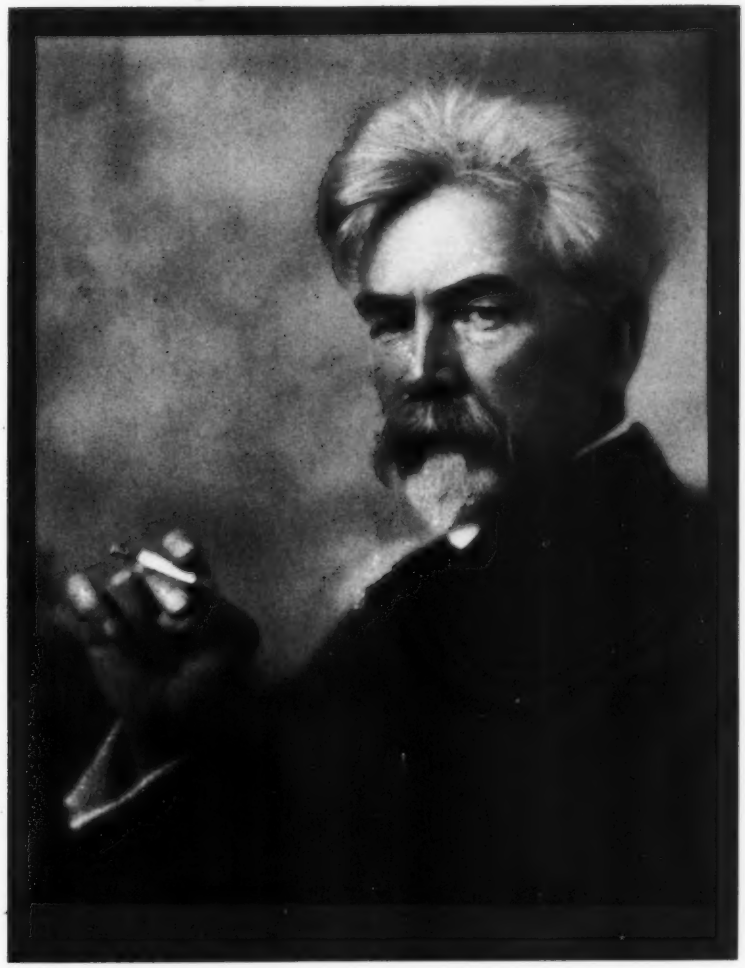

PORTRAIT OF JULIUS ROLSHOVEN
FRANK SCOTT CLARK

ON THE BEACH — HOWARD I. SAUNDERS

Causes of Insufficient Sharpness

THERE is no failing in photography that can have such a multiplicity of causes as insufficient sharpness. Just what should be considered lack of sharpness will not be considered here, but rather we will give, in a condensed form, a systematic exposition of the various kinds of imperfect focus and their causes, which will surely facilitate the photographer's search for them and bring to light many sources of failure before unknown to him. Out-of-focus pictures, often of a quite enigmatical nature, are apt to spoil one's enthusiasm for the beautiful light-painting art; but when the reasons are known one is armed against their recurrence.

I. The view was sharply focused:

A. The entire picture lacks sharpness in all its parts, in the center as well as at the edges, and in every degree of depth.

(*a*) At every exposure. Causes:

1. Difference of focus (chromatic aberration). Remedy: an achromatic lens, or shifting the lens after focusing.
2. Difference in the plateholders. Remedy: change the apparatus (either the ground-glass or the plateholder), or shift the back part of the camera according to the focus.
3. Fogging of the lens through age or defective polishing. Remedy: change the lens or have it repolished (by a competent optician).
4. The shutter rattles when working. Remedy: get a better and steadier shutter, or repair the old one.

(*b*) Not in every exposure, but occasionally. Reasons:

1. Difference in diaphragm when focusing was not done with same stop as exposure with a badly corrected lens. Remedy: focus with same stop as used for exposure.
2. Distortion due to excessive stopping. Remedy: do not use smaller diaphragm than F/62.
3. Difference in plateholder, if diffusion occurs only when using a certain holder. Remedy: do not use the defective holder, or have it put in order.
4. When making exposures with yellow ray-filter, if focusing is done before placing filter in front of or behind the lens. Remedy: focus with the filter on.
5. The apparatus is not firmly built or is not securely fastened, so that when inserting the plateholder the part containing

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A LESSON IN SAND-SCULPTURE — S. H. GOTTSCHO

the ground-glass is pushed out of place. Remedy: have apparatus repaired, and see that parts are securely fastened.

6. The lens was fogged with moisture. Remedy: wait until fog disappears, or wipe with a soft cloth.
7. The exposure was made before the camera had come to rest after pulling out the slide. Remedy: wait a little.
8. The apparatus was moved by the wind or otherwise during exposure. Remedy: set up the apparatus firmly, and protect it as much as possible from motion while exposing.
9. The apparatus was jolted by too sudden removal of cover of lens or too forcible pressure of the bulb. Remedy: use more caution in working.
10. The apparatus was slightly moved when making a second exposure. Remedy: use more care, or omit second exposure.
11. The plate was placed in holder wrong side to; the picture will have positions reversed. Remedy: always put plates in correctly.
12. The exposure was made from a moving vehicle and exposed too long. Remedy: shorter exposure.

B. Only portions of picture are out of focus.

(a) At every exposure:

1. The center of field is sharp while the edges are out of focus. Reason: the lens is not sufficiently aplanatic for the size of plate used or is not corrected for astigmatism or achromatism. Remedy: use a lens that covers plate properly to the edges, or stop down sufficiently.
2. The right side of field is sharp while the left side is not; or the upper end is while the lower is not; or the center part is sharp while the left or right side or the top or bottom is not. Reasons:

(x) The back part of camera (ground-glass) is not parallel with the front part (lens), i.e., it is not perpendicular with the axis of the lens. In such case the lack of sharpness will be visible on the ground-glass when focusing. Remedy: have the ground-glass part made parallel, or stop down sufficiently.

(β) The plateholder does not go in straight, so that about one-half of the plate coincides with plane of the ground-glass while the other half does not. Remedy: change the plateholder, or stop down sufficiently.

(y) The plate lies unevenly in the holder itself, on account of poor construction or because the spring that holds the plate has become loose. Remedy: improve the holder or tighten the spring.

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3. When using a yellow filter individual parts are out of focus. Cause: the filter is poorly made, or if a film-filter is used it does not lie flat. Remedy: use a better filter. There are several excellent ones on the market.
4. The sharpness is at a different distance from that focused upon, either nearer or farther away. Cause:

(x) Difference of focus. Remedy: use a chromatically corrected lens, or after focusing move the back part of camera enough to correct the difference.

(β) Difference in plateholder. Remedy: change camera or plateholder, or adjust camera to focus.

(b) Only in occasional exposures, or each time in a different spot.

1. Same as in I. B (a) 2, because with a swing-back parallelism is lacking only occasionally between plateholder and lens-board; or only a certain plateholder is at fault. Remedy as for I. B (a) 2.
2. Sharpness lies at a different distance from the one focused upon. Cause:

(x) Difference of diaphragm if focusing was not done with same stop as exposure. Remedy: focus and expose with same stop.

(β) Only a certain object is out of focus. Reason: the object or person has moved or been moved. Remedy: shorter exposure, or in long time-exposures close shutter as soon as movement is observed.

3. Only the lighter parts of a contrasty picture show lack of sharpness. Cause: halation. Remedy: use non-halation plates.
4. In different places there are light-spots (mostly circular) which sometimes may extend over the whole plate, causing a fluffy and out-of-focus appearance. Cause: reflections from diaphragm or lens. Remedy: use a lens corrected for reflections, or avoid exposures when these are likely to appear, especially against the light; use some arrangement in front of the lens to protect it against side-rays of light; or reblacken parts of lens-mounting or diaphragm that have worn bright, etc.
5. Different parts of plate show lack of sharpness. Cause:

(x) Double exposure, the first of which was very short. Remedy: avoid double exposures.

(β) The camera or the plateholder has a small hole somewhere which produces on the plate a faint pinhole-picture causing parts of the proper exposure to be partly obliterated. Remedy: repair camera or holder, to exclude the light.

6. A larger or smaller irregular spot lacks sharpness and is darker than remainder of picture. Cause: an object has passed quickly before the lens during exposure and left a slight trace on the plate. Remedy: suspend exposure when such objects pass.
7. When using negative-paper or films a wave-like area of diffusion appears. Cause: the paper or film did not lie perfectly flat. Remedy: use plates, or get a holder better adapted to the purpose.

C. With lack of sharpness double contours may also appear, because the movement causing the blurring was not a continued vibration, but a simple push out of position. The cause is the same as already given.

II. Focusing was not sufficiently sharp. Remedy: more care in focusing, using a magnifying-glass if necessary, and use a finer ground-glass, or clean it and rub with glycerine.

III. A sufficiently uniform focus was made, but attention was not given to depth. Remedy: when focusing, stop down until sufficient depth is obtained.

IV. Sufficient sharpness cannot be obtained in focusing. Reasons:

1. An incorrect or badly corrected lens (monocle lens, etc.). Remedy: use a better lens.
2. A good focus can be obtained of a distant but not of a near view. Reason: lens not sufficiently corrected for near views, i.e., for greater range of view. Remedy: a better lens, and in some cases stopping down.

V. The distance was guessed at and focus estimated without the use of ground-glass. Reason for diffusion: wrong estimate of distance if no other reason is in question. Remedy: estimate distance carefully; if necessary, use a telemeter.

VI. The distance was correctly estimated, but is still wanting in sharpness. If none of the previous points applies, the focusing-scale is incorrectly placed. Remedy: have focusing-scale corrected.

Deutsche Photographen-Zeitung.

SUNSET — EDITH S. CAVE

Flattening Mounted Prints

G. EDMUNDSON

A PRINT on a stout paper, mounted while it is in a very wet condition, will pull even a very thick card into a semi-cylindrical form; and it is difficult, if not impossible, to get such a combination to lie flat. The nearest approach to flatness that can be obtained is got by taking a piece of stout paper similar to that on which the print was made, and of the same size, and mounting this on the back of the card while in a similarly wet condition. If the print is then kept flat under pressure until quite dry, the result will be fairly flat, although if left lying about, it will still tend to curl with its edges upwards, whichever way up it may be left.

When there are a number of mounted prints of no great size to flatten, the writer has found the following method quite practicable and effective.

A cylinder of wood or cardboard, about six or eight inches in diameter, has pasted onto it, by one edge and then rolled up, a length of paper. Wallpaper will do. The paper is then unrolled, and the mounted prints are taken one by one, made quite warm on both sides in front of the fire, and placed on the cylinder, picture outwards, and the paper rolled around it.

The easiest way in which this operation can be carried out, when we have a number of prints to deal with, is to extend the paper on the table, put the first print face downwards on it close to the cylinder, roll it forward so as to pick up and hold the print, and then put down the next print, and so on. A piece of tape is tied around the cylinder, which is then put in any convenient place for a day or two.

The prints come out of this slightly convex, but soon flatten. This method must be attempted only after the mountant has become quite dry.

Photography and Focus.

THERE is a sort of Rubicon which art should not cross. The danger is to imitate mechanically masters who are given as models and who are themselves heavy, false and conventional. Cease to observe nature and your sentiment of color will diminish in intensity.—*Henry Havard.*

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TYPICAL COUNTRY-SCENES IN SWEDEN
G. HORLIN

SWEDISH WATERSCAPES G. HORLIN

Tourist-Photography in Sweden

G. HORLIN

THERE is, probably, no country in the world equal to Sweden for tourist-photography in the summer-time. And why? Because it is never too warm to be outdoors at any time of the day. Days are long in the height of summer: the sun rises at 2.30 A.M. and sets at 9.30 P.M. For that matter, successful exposure can be made at any time during a summer-night; but not a snapshot. Yes, even a snapshot can be taken night or day in the northern part, which is familiar to all as "The land of the midnight-sun." So the advantage for a business-man, or anybody employed during the day, can readily be seen, as it leaves four hours at each end of the day for the enjoyment of amateur photography.

Roads, nearly all over the country, are dry and hard, and good to walk upon. There are plenty of creeks and other small waters, foliage fresh and green and the country-people in general are very accommodating. When meeting a farmer working in the field or driving his team, tell him his picture would be desired in the view and he will immediately spit out his tobacco or the wad of snuff he keeps in one corner of his mouth, wipe his face and stand smiling as long as wanted. So there will be no need to worry, for one may walk fearlessly wherever one pleases, and if found on somebody's property the owner will never meet one with a gun or a big dog, as has several times happened to me in former years around Chicago, although I am both an easy-going and good-natured man.

I shall not try here to write a serious article telling how to succeed in pictorial pictures, as I cannot, with my accompanying illustrations, prove that I am a pictorialist. But I know there are thousands like myself who would rather strive to make what is called a "straight" photograph than to follow some workers who simply throw the view badly out of focus, over- or under-expose, draw a horsefly or fishhook in one corner for initials, and title it "Morning Twilight" or "As Day Fades Away," and think that the rest of the family will stop, gasp and wonder how he did it?

This must not for a moment be looked upon as a faint desire to dispute that there are eminent American photo-pictorialists who do work and make pictures well worth going a long way to see, and worth going to see again and again. So I shall right here leave the pictorial question to such writers as Paul Lewis Anderson, and relate a couple of little incidents which happened to me on my photographic tramps last summer.

I started out with a few dozen plates and other little knickknacks that would come in handy on a few days' trip, put them all in a tourist bag and strapped it onto my back. Writers and even plate-makers themselves always recommend that the best way to keep exposed plates on such trips when exchanging is to put the plates back

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into their original boxes film to film and glass to glass. This I have found on several occasions is not the best way, because, when traveling around several days, riding and walking, little particles of the glass will become loosened and find their way between the two films, travel around on the plates from one end to the other and back again many times, leaving hundreds of little holes on the films where you least want any. And you cannot work as safely and quickly this way as may be needed in a place not quite free of white light. Or if you have bribed the farmer's wife to use one of her clothes closets she will be coming now and then to look in and see if any of her belongings have gone into your pocket. My way is to cut a lot of dead black papers the same size as the plate, put them into an envelope and take it along. When exchanging the plates place each one film side down with a black paper on top of it. This way is much safer, much easier; more plates can be put into one box with no danger of mixing plates exposed and not exposed.

But this you must not forget, as I have found out to my sorrow. Do not cut the papers smaller than the plate you are using or there will be trouble. On several occasions I had to economize on the paper and cut the pieces smaller, not knowing it would make any difference; but I found upon development that the negatives were badly marked where the paper did not cover the plate entirely. These defects will appear stronger if plates are left undeveloped for some time. By no means use white paper or printed paper between the plates, as such paper would ruin your plates before halfway home.

For over twenty years I have been an ardent camerist and a good consumer for the plate-makers, but not until last summer did I get an eye-opener on another trifling matter, but which has cost me both worry and plates. When taking sunsets, or cloud-formations including the sun behind a cloud, it often happens, when a filter is on the lens and everything arranged for the exposure, one pulls the slide, takes hold of the bulb, but very often hesitates just a second or two to let a certain cloud pass just a little more before pressing the bulb. So I did, but on developing found the negative "muddy" and having the appearance of overexposure. I tried again with the same results. But one day it happened the slide was only partly drawn a second, and there I found the trouble — a leakage somewhere — but on examining the shutter and bellows I could find no fault, so I spoke to an expert on shutters, and that gentleman told me that the material shutters are made of will, in years, fade and not be opaque as they look, but leaky. So I went to work and again examined my shutter against a good light, and found to my surprise that I could see light through those dark blades, something resembling a weak ruby light. Look over your old shutters (mine is nearly twenty years old) and perhaps you will find out why so many of your plates got fogged last summer.

SYNTHETIC work generally is considered to require a higher type of mind or a more vivid imagination than analytic; but the writer does not feel this to be the case. One type of mind cannot be considered higher than the other, any more than the scientist can be considered superior to the artist, or *vice versa;* they are simply different.— PAUL LEWIS ANDERSON.

A MOUNTAIN-STREAM — G. HORLIN

THE LAND OF THE MIDNIGHT-SUN
FISHING-BOATS
G. HORLIN

Converting Metric Formulæ Rapidly

A. LOCKETT

ONE sees so many metric formulæ nowadays in photographic or scientific journals, and frequently in newspapers, that a really easy and quick method of converting them into British equivalents cannot but prove useful. The rules commonly given for the purpose are not as simple as they might be, and many fight shy of the task or manage to get incorrect results. It is a further defect of existing systems that the converted formula has no visible identity with the original, so that if an error inadvertently creeps in it will not be self-evident.

Take, for example, the metric formula for a bromide developer given at A below. Converting this to grains and minims in a pint of solution by a popular method, that is to say, multiplying the grams by 8.8 and the ccs. by 9.6, the result is as at B. The time taken by a fairly quick arithmetician averages two minutes, while, as will be seen, the new figures bear no resemblance to the original ones:

	A	B
Metol	1 gram	8 grains
Hydroquinone	3.5 grams	30 grains
Sodium sulphite	37.5 grams	330 grains
Sodium carbonate	37.5 grams	330 grains
Potassium bromide (10-percent solution)	2.5 ccs.	24 minims
Water	1,000 ccs.	20 ounces

The last consideration is more important than might be thought, and arises, of course, from the usual desire to convert the metric formula into a solution containing an even pint, or a given number of entire fluid ounces. It is surely much easier to have an odd proportion of water or other solvent if thereby one is enabled to keep all the figures practically in their original state, or to obtain such a face correspondence between the old figures and the new that the accuracy of the conversion is obvious at sight, thus dispensing with any need for verification or checking.

With this object in view the writer has devised an extremely simple method, which is undeniably more rapid than any hitherto proposed — in fact, almost instantaneous. To all intents and purposes it keeps the exact proportion of the various ingredients and bears an immediately apparent relation to its metric original, so that checking is unnecessary, while reconversion, should it ever be desired, is equally quick and easy.

The rule is as follows: — To convert a formula expressed in grams or ccs. per litre into grains and minims, multiply the grams by ten, or the ccs. by eleven, and dissolve in 23 ounces of water or other solvent.

Converted in this manner, the foregoing formula would read:

Metol	10 grains
Hydroquinone	35 grains
Sodium sulphite	375 grains
Sodium carbonate	375 grains
Potassium bromide (10-percent solution)	27.5 minims
Water	23 ounces

(The half minim of bromide may, of course, be ignored.)

Here, it will be noted, the figures have a definite similarity to those of the original metric formula, so that one is instantly sure that no mistake has been made. The time taken for conversion averages only five seconds. The 23 ounces, it may be remarked, are sufficiently near a pint to form a convenient quantity for making up.

The approximation to complete accuracy is very close indeed, the error being less than 1 percent. For absolute correctness to three places of decimals it would be necessary to multiply the grams by 10.074 and the ccs. by 11.04; so that by using 10 and 11 as the multipliers there is merely a deficiency of 0.735 percent in the grains and 0.363 percent in the minims, which is quite insignificant in practice.

The following simple memory-rhyme may assist many to remember the new rule:

> To convert, with the least of pains,
> Ccs. to minims, grams to grains,
> Multiply grams per litre by ten,
> Or ccs. by eleven; then
> The solvent's right amount will be
> Fluid ounces twenty and three.

To reconvert, one need only write 1,000 ccs. instead of 23 ounces, and divide the grains by ten or the minims by eleven, calling them grams and ccs. respectively.

For the benefit of those not familiar with the metric system it may be helpful to state that a litre = 35.195 fluid ounces, or 35 ounces 94 minims, and contains 1,000 cubic centimetres. A cubic centimetre, or cc. = 16.894 minims, while a gram = 15.432 grains.

To convert a metric formula of 500 ccs. bulk, multiply the grams by ten and the ccs. by eleven, as before, but take only 11.5 ounces of water or other solvent. For a formula of 100 ccs. bulk, take 2.3 ounces of solvent (0.3 ounces is, of course, 144 minims).

IN CORDUROY PELTON & HIGGASON

When but a small quantity of a 1,000 cc. formula is wanted at a time the original metric figures may be retained, calling ccs. minims, and grams grains, and taking 2.3 ounces of solvent. Ten percent (one-tenth) should then be added to the minims. The first-mentioned formula converted in this way would read:

Metol	1 grain
Hydroquinone	3.5 grains
Sodium sulphite	37.5 grains
Sodium carbonate	37.5 grains
Potassium bromide (10-percent solution)	27.5 minims
Water	2.3 ounces

The fractions are given to show the working, but are ignored in practice.

The British Journal of Photography.

Using Dry-Mounting Tissue

THE amateur using dry-mounting tissue for the first time is apt to find that no matter how much heat he uses the tissue will stick to the print, but will persistently refuse to adhere to the mount, especially if it is a glossy print on fairly thick paper. Indeed, this matter of maintaining exactly the right temperature has discouraged many who really desire to use this process. The trouble is that the heat causes the print to curl inwards to such an extent that the heated mountant on the tissue is not strong enough to hold the print down. The remedy is to place a flat, heavy weight on the print and mount, until the heat has left them, when they will be found to adhere perfectly.—*Alfred I. Tooke.*

XUM

Untrue Tone-Values in Lights and Shadows

WILLIAM S. DAVIS

ONE of the most common faults met with in photography is the falsification of contrasts and failure to show gradation of tone properly in the lightest or darkest portions of a scene. Sometimes both ends of the scale are wrongly represented in a single print, or again only one end; but in any case the desired artistic quality of the result as a whole is seriously marred if not entirely spoiled because the "values" are not truthfully indicated.

Various reasons might be given as the cause, such as the subject possessing a greater range of tone-gradation than a photographic plate can record, employment of unsuitable materials, lack of ray-filters, etc., all of which will be considered later; but the primary reason is lack of careful study by the photographer of the varied gradations in the scene itself, and consequent failure to adopt proper means in taking the picture. It cannot be too strongly urged, particularly upon beginners, the importance of taking time to understand the essential combination of elements which make a given view attractive, for a large part of the technical difficulties will quite disappear if one only learns to analyze such features before making the exposure, and thus decide upon the kind of effect wanted in the finished picture. Once this is accomplished the rest becomes a matter of employing a systematic technical treatment, readily varied to fit the particular work in hand.

While experienced pictorialists understand the matter, it may be proper for the benefit of others not acquainted with art- or studio-terms to say that the word "values" is used by artists to cover the relation, one with another, of the innumerable transitions of tone which exist in every subject—what people in general would call just light and shade. The term, however, covers much more than the latter, since it includes those differences due to variations in depth of color, the relation of a lighter to a darker object or detail and vice versa; likewise such alterations as are caused by the effect of atmosphere between the subject and observer; therefore in referring to the tone-values of a picture one means the relationship between all the spots or areas of different tonality which go to make up the entire composi-

FIG. 1. FALSE HIGHLIGHTS

tion, entirely regardless of how they are produced in nature.

What is considered truth in the "values" in a picture is based upon the theory that since pure white and black represent the greatest possible extremes of contrast upon paper or canvas, these must stand for the same extremes in nature. Now as *absolute* black or white is not often found in subjects usually chosen for picture-making outdoors, the gradations, or "values," of the picture should in consequence be kept within approximately the same relationship to the extremes of our limited scale as the tones of the original occupy in nature's scale. Owing to the restricted length of scale available it is not always possible to adhere absolutely to this principle, for in pitching the general tonality of a picture in a high or low key better to express the particular feeling desired, an attempt to condense all gradations fully would sometimes result in the merging of certain "values" essential to keep better separated for the purpose of retaining some essential impression. In such an instance the feeling of truth must take the place of a literal translation, and the most important parts be retained at the expense of partial suppression of gradation at one end of the scale. Thus, in a scene showing a long range of contrast, with many gradations between, one may consider that the sparkling quality of the lighter tones constitutes the *raison d'être* of the picture, and so elect to retain these at the loss of minor gradations in the deep shadows, which have to be flattened somewhat to keep them within the scope of our available scale. Another time the various shadows are of prime importance, so to allow good differentiation between them the highlights must approach each other more closely than would be comparatively correct. This extra compression of "values" at one end or the other may appear perfectly true in the finished work, while the merging of several tones into a mass of blank white or black would not merely represent a much greater loss of gradation, but at once convey a feeling of exaggeration.

FIG. 2. A SUNBURST

In taking, for example, a sunshine- and cloud-effect over water the actual difference between the sunlit and darker parts is such that some jump to the conclusion that it is necessary to make use of extreme measures to indicate this contrast, usually producing a result similar to Fig. 1. Now as a matter of fact this does not suggest the sparkle of strong light on the wavelets, because the separate minute spots of light reflected by the undulating water have merged into an unbroken *flat mass* throughout the lights instead of preserving the little shadows caused by the sides of the waves toward the observer. It is quite true that

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under certain conditions the diffraction of intense sunlight on water will cause some of these details to run into a patch of highest light, but this covers only a relatively small portion of the water where the illumination is strongest, while in the rest of the sun-path the tone-gradations become more and more defined until they finally approach the middle-tones. Another feature in our example is rendering of the clouds in too low a tone, for while a reasonable amount of difference is necessary to emphasize the lights, this should not go so far that the feeling of atmosphere and general luminosity is destroyed. Fig. 2, which conforms to the principles laid down, is presented for comparison. In this the scale of contrast is much shorter, but the shimmer of sunshine is suggested by means of the gradations retained throughout the lighter passages.

Fig. 3 shows a defect common in the average beginner's landscape-work — viz., lack of proper "values" in the deeper parts, which run into solid masses of black. This is not in accordance with what the eyes see, because an absolutely black tone implies utter absence of illumination rarely met with in daylight, since the shadow-portions of practically all subjects outdoors receive a certain amount of reflected light from their surroundings, to say nothing of the general diffused light from the sky, some of which finds its way through even the thickest foliage. Moreover, when there is an appreciable amount of space between the observer and a mass in shadow (even though a black object) the intervening air, owing to its refractive quality, will diffuse some light, the effect of which becomes greater with increasing distance and the amount of moisture held in suspension by the atmosphere. Destroy this quality in a picture by representing some spot in the middle-distance, or beyond, by a patch of absolute black and the feeling of aërial perspective, or separation of planes, immediately vanishes. If the reader will now compare Fig. 4 with Fig. 3 the difference in quality becomes apparent, due simply to the reasons stated.

FIG. 3. FALSE SHADOWS

Now for the technical cause and remedy in photographic work.

Loss of "values" at either end of the scale is generally due to unsuitable exposure, over-development of the negative or both, and the different effects may be classified as follows:

1. If the lights appear in the negative as unprintable masses of blackened silver, while the deep shadows are nearly or quite clear glass, underexposure *and* forced development are indicated.

2. Full gradations throughout the middle-tones and into the stronger shadows, combined with blocked-up lights, show correct exposure but too long a time in the developer (or solution over-strong), which has gone on reducing the exposed silver until one after another several lighter tones have merged into one opaque mass. Sometimes, when the case is not extreme, the various "values" in the higher lights are visible in the negative, but possess too much opacity for the printing-process to record by the time other parts of the subject are correctly printed.

3. Flat highlights which lack proper differentiation of values, but possess good general printing strength, together with very full detail in all other portions, show considerable overexposure followed by ordinary development.

4. Highlights correct, but shadows lacking tonal quality. Exposure timed for lighter parts alone. Development, however, stopped at the right point, since forcing would not bring out gradation where the exposure has not penetrated.

The general remedy in each of the classes cited is obvious, but owing to the extra control possible by using certain kinds of plates and filters, the matter of materials deserves mention.

FIG. 4. SPRINGTIME WOODS

Some subjects are rendered more difficult to photograph satisfactorily owing to the lighter passages reflecting a disproportionate amount of blue and ultra-violet rays as compared with the deeper parts — a snow-scene with dark trees, for example — so, as all plates or films are more sensitive to these rays than any other, the actual photographic contrast is even more than that seen by the eyes. While color-sensitive emulsions share this defect with ordinary ones they have the decided advantage of being far more sensitive to the less actinic colors than the latter, consequently are better able to do the work desired; but to secure full benefit from their use it is necessary to hold back the blue-violet. The several types of "self-screen" plates are designed to do this, and are excellent when conditions are not too trying, but greater control is possible when using separate ray-filters on the lens, which vary in compensating-power according to their depth. A 3X is very serviceable for ordinary use, but a stronger one (say about 8X) is better when color and tonal contrasts are great. It is generally accepted as a fact that thickly coated emulsions rich in silver will render a longer scale of tones, therefore it becomes advantageous to use some variety of so-called "non-halation" plates composed either of a single, thick emulsion or a double coating of a fast over a slow emulsion.

Using a suitable plate and filter, the best general practice is to expose for the shadows and stop development of the negative when the highlights have reached correct printing-strength. Under all average circumstances this gives one the greatest possible number of "values" in their true places throughout the entire scale. Once in a while an abnormal class of subject may be found, consisting of highlights and middle-tones over practically its entire area with the exception of some small spots of very deep shadow, in which case it may be necessary to modify the proceeding in some degree by timing the exposure for the most important parts. This, of course, will mean losing gradation in the deep shadows, but if these prove a jarring note in a print made on some soft-working paper, like bromide, recourse can be had to staining, or otherwise treating, such portions of the negative enough to prevent their printing quite black. On the same principle one may have to disregard small patches of highlight occurring in strong shadows, such as thick foliage, exposing for the important parts and developing accordingly; then lower the intensity of the offending lights by after-treatment.

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BACIO DI LUNA
WILLIAMINA PARRISH

EDITORIAL

Catering to the Public

THIS question has agitated the minds of the purveyors — the merchants with commercial instincts — but not the artist, who creates subject to his muse. A happy medium, a judicious blending of the two, would seem earnestly to be wished so far as it applies to the professional photographer. And yet the merchant, eager to serve the public, should have a high standard as to the quality of his wares, even though an inferior grade will yield him a relatively larger profit. The high-minded merchant will experience no satisfaction in amassing large profits at the expense of his self-respect, even were he clever enough to sell goods of second choice as of prime quality, which is done every day. The merchant who by knowledge and experience discriminates in favor of the best that can be produced, and enjoys a large patronage, has cause to be satisfied with himself, and deserves the esteem of his fellow-men. He explains to his patrons the difference between superior and spurious products, and wins the confidence and respect of his patrons. He caters to them only so far as he carries the kind of goods they need.

We find this supremacy in excellence exemplified in various lines of business; but less so, it seems, in portrait-photography. The matter lies entirely with the individual photographer. If he have genuine artistic ability and a commanding personality, he should be in a position to set the standard of artistic excellence for his customers. Led intelligently and tactfully, they will acquiesce readily, and look upon the master-photographer as the superior being that he is.

When Ira L. Hill, the popular New York photographer, declared at the New York state convention, last February, that the public should be the judge of the quality, that it would pay any price for what it wants and that the photographer should find that out and supply it, he meant, of course, that this should be done with certain reservations. He intimated a compromise, not a complete surrender of the photographer's artistic ideals. Like Dudley Hoyt, for instance, Mr. Hill's patronage is among society-women, most of them young and attractive, and he would consider it unwise to force upon them his personal notions of art, if by so doing he sacrificed or impaired the likeness. Of course, a certain degree of flattery in the portrayal is expected of him. Few elderly or ill-favored sitters would accept a literal record of their face and figure, as was Franz Liszt with his numerous warts.

The shrewd photographer whose admiration for Rembrandt and Velasquez would take a practical form will learn by experience to what extent he may apply their methods of lighting and characterization to his sitters, of whom only a few may accept an interpretation in which his vigorous personality dominates the likeness. When making pictures for the Salon is the time to give full sway to his artistic inclinations.

But it is in the radical changing of the features and the contours of the anatomical structure where the photographer is a law unto himself. Here the question of pleasing his customer is supreme, and where artistic considerations — except those that accrue to his pecuniary advantage — should yield. The average sitter desires a flattering likeness, though not an obvious perversion of physical facts. Unfortunately, and in the attempt to modify protuberances or depressions that have been accentuated by the lighting, the average retoucher does his work badly, imparting an unnatural appearance to the anatomy and obliterating character and expression.

Physical improvements such as reducing a generous waist, straightening a rounded back, transforming a double-chin or shaping the upper arms, are in the nature of surgical operations, and should not be considered perversions of truth. When performed with the skill of a — but one should not betray confidences — so that not the slightest trace of the retoucher's work is visible, there is cause only for congratulation; the patron is delighted with the transformation, the photographer is satisfied with his efforts and the resulting fee, and the public admires the artist's general skill, though it is not in the secret.

But what troubles the soul of the critical public is the sinful way in which the neck-region is frequently retouched. It would provoke no criticism where it is done skilfully, even though this concerns only the photographer and the sitter. In many cases the modeling at the base of the throat, including the pretty dimple (the suprasternal notch), is obliterated and replaced by a meaningless and badly retouched waste, whereas an artistic suggestion of the familiar anatomical structure is consistent and pleasing.

ADVANCED COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA, Monthly Competition
383 Boylston Street, Boston, U. S. A.

Prizes

First Prize. Value $10.00.
Second Prize: Value $5.00.
Third Prize: Value $2.50.
Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Prizes may be chosen by the winner, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books. If preferred, the winner of a first prize may have a solid silver cup, of artistic design, suitably engraved.

Rules

1. This competition is free and open to any camerist desiring to enter.

2. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor from start to finish, and must be artistically mounted. ***Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Sepia-prints on rough paper are not suitable for reproduction, and such should be accompanied by smooth prints on P. O. P. or black-and-white paper having the same gradations and detail.

3. Unsuccessful prints will not be returned unless return-postage at the rate of one cent for each two ounces or fraction is sent with the data.

4. Each print entered must bear the maker's name, address, the title of the picture and the name and month of the competition, and should be accompanied by a letter, SENT SEPARATELY, *giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request.* ***Be sure to state on the back of every print exactly for what competition it is intended.***

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. If suitable, they will be published in PHOTO-ERA, full credit in each case being given to the maker.

6. Competitors are requested not to send enlargements greater in size than 8 x 10 or mounts larger than 12 x 15, unless they are packed with *double thicknesses of* ***stiff*** *corrugated board, not the flexible kind, or with thin wood-veneer.* Large packages may be sent by express very cheaply and with indemnity against loss.

7. The prints winning prizes or Honorable Mention in the twelve successive competitions of every year constitute a circulating collection which will be sent for public exhibition to camera-clubs, art-clubs and educational institutions throughout the country. The only charge is prepayment of expressage to the next destination on the route-list. This collection is every year of rare beauty and exceptional educational value.

Quarterly Miscellaneous Competitions

IN order to extend the opportunities for participation by a larger number of our readers, and to broaden the scope of the entries, these will be a feature of 1917.

Awards — Subject for Photo-Era Cover

Closed April 30, 1916

First Prize: T. W. Kilmer, M.D.
Second Prize: E. G. Dunning.
Third Prize: Fannie T. Cassidy.
Honorable Mention: Lawrence Baker, Virgil R. Boozer, H. L. Bradley, Rupert Bridge, C. M. Campbell, Edward C. Day, Karl Fichtner, J. H. Field, Alice F. Foster, M. Frey, A. B. Hargett, Chas. A. Hughes, Franklin I. Jordan, Carl H. Kattelman, E. J. Koester, B. F. Langland, G. A. Laurence, D. J. McCarthy, Richard D. McCue, Alexander Murray, Harry G. Phister, E. M. Pratt, Clarence Teamer, Frederick Van Riper, A. M. Vinje, Belle M. Whitson, Mrs. H. J. Wiegner, Alice Willis, William J. Wilson, Elizabeth B. Wotkyns, B. L. Wright, William H. Zerbe.

Special commendation is due the following workers for meritorious prints: V. W. Baker, R. Bardewyck, Jacob Bosshart, J. M. Connor, Antoinette A. Cornish, Chas. M. DeBevoise, Thomas Elsum, S. P. Emerick, Antoinette B. Hersey, Marguerite Munger, H. Pieter, G. Pike, Mark A. Richardson, Harry Schaeffer, D. Vincent Smith, Alvin Stallman.

Subjects for Competition

"Speed-Pictures." Closes June 30.
"Nature-Study Subjects." Closes July 31.
"Figures in Landscape." Closes August 31.
"Animals in Landscape." Closes September 30.
"Marines." Closes October 31.
"Camp-Scenes." Closes November 30.
"Flashlights." Closes December 31.
"The Spirit of Christmas." Closes January 31.
"Miscellaneous." Closes February 28.
"The Spirit of Winter." Closes March 31.
"Home-Portraits." Closes April 30.
"Miscellaneous." Closes May 31.

Photo-Era Prize-Cup

IN deference to the wishes of prize-winners, the Publisher will give them the choice of photographic supplies to the full amount of the First Prize ($10.00), or a solid silver cup of artistic and original design, suitably inscribed, as shown in the accompanying illustration.

WHEN WE WERE LITTLE BOYS — DR. D. J. RUZICKA

Figures in Landscape

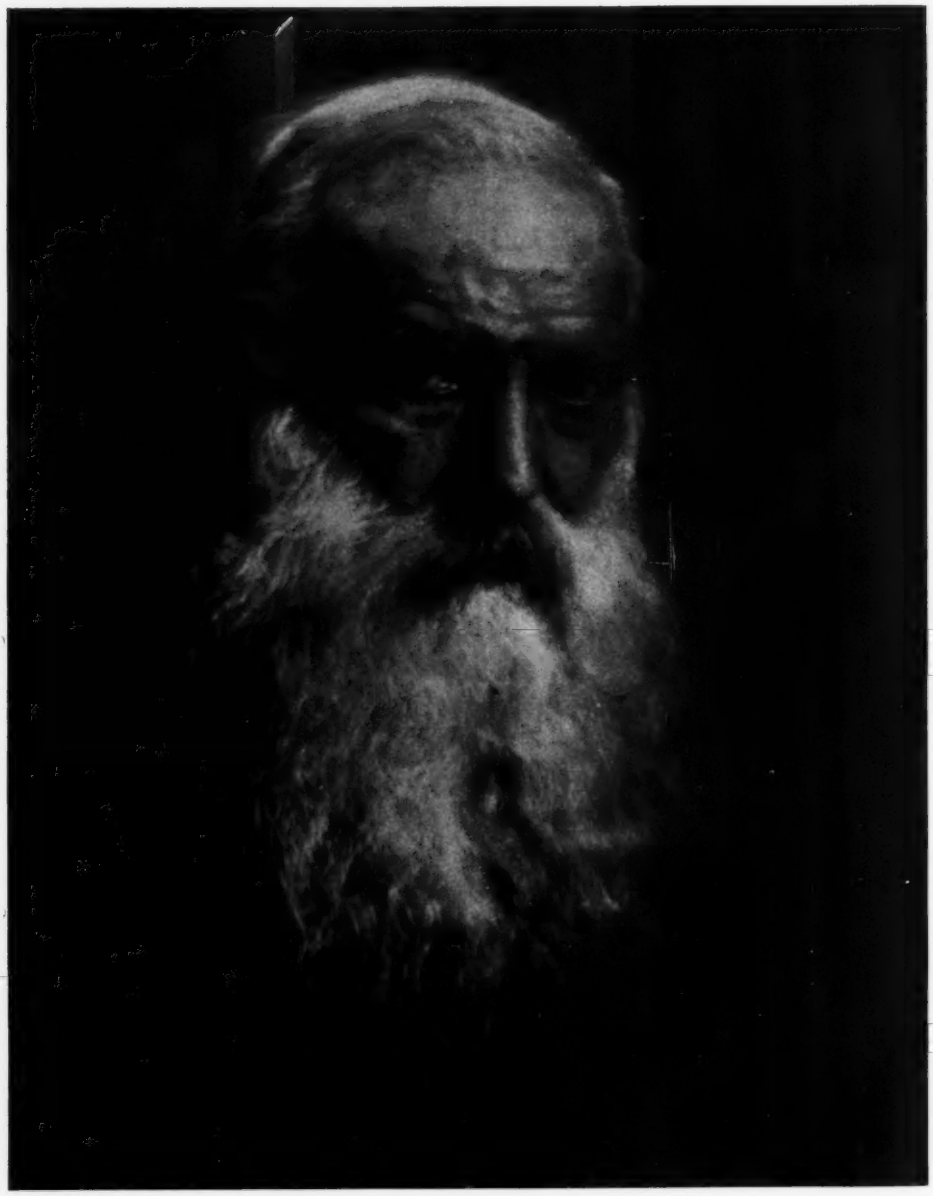
Photo-Era Competition, Closes August 31, 1916

You will notice that the wording of the contest-subject this month varies somewhat from that given in previous years. It has heretofore been "Landscape with Figures;" this time it is "Figures in Landscape." The change of wording places the emphasis on the figures, and requires that they be made the first interest, while the landscape is merely of secondary importance, the background. The majority of the paintings of "Papa" Corot are good examples of "Landscape with Figures." The landscape is always the dominant thing, there is never any question about that; but almost invariably he introduces the human element in some form: it may be only a single tiny figure, or it may be a number of figures, as in "The Dance of the Nymphs;" but even here they are quite engulfed in the charming woodland and entirely subordinate to it. The secret of success in either line of work is to have one thing entirely dominate the other — there must be no manner of question which is the main subject of the picture; no division of interest, for that is fatal to artistic merit.

Among artists of the brush a good exponent of our present theme, "Figures in Landscape," is Millet. In such subjects as "The Angelus," "The Gleaners" and others like them we have ideal models toward which to work. Here there is no question of the dominance of the figures; they make the picture — the landscape is there, but merely as the necessary setting and logical environment of the human interest. In "The Gleaners" there is not a little interest in the background — the big ricks, the loaded wain, the reapers and the little village, but all is enveloped in a sort of luminous golden haze, through which all appear in softened color and vague outline. Against this the bright head-coverings of the three stooping women come out with great emphasis, and the eye is held completely by the figures, all the rest serving merely as the necessary explanation of their action.

Other artists that excel in portraying the peasant-type seem to have this happy faculty of allowing their setting to play the part of the chorus in a Greek play in explaining the action of the chief performers. Take the same subject by a different artist, Breton's "The Gleaner." Here the sturdy figure and its burden fill almost the entire canvas, yet at the right one has a glimpse of a row of sheaves and the field of stubble. In "The Song of the Lark," by the same artist, there is the wide cultivated field and the roofs of a group of buildings; but one sees only the erect listening figure, sickle in hand. In the most artificial school of French art, as typified by Watteau, the background becomes so unreal as to make it simply a stage backdrop, unworthy the name of landscape; yet the relative proportions of the figures and the setting are instructive.

The variety of subjects that one may utilize is limitless; but one must always regard the appropriateness



HEAD-STUDY
FIRST PRIZE — SUBJECT FOR PHOTO-ERA COVER
T. W. KILMER, M.D.

of the setting for the costume and general type of the figures. A hay-field is no proper background for a "cityfied" figure, whether man, woman or child, any more than Fifth Avenue would be for a farmer straight from his haying.

The farm, with its varied employments, is a fruitful ground for study. The plowman, either at his work or as he "homeward plods his weary way," is one of the best of subjects; the hay-makers, at work or eating their noon meal in the shade of some fine old tree; the apple-harvesters or potato-diggers. All outdoor laborers in their own natural garb and with a glimpse of their habitual surroundings are splendid picture-material. Such types are not always easy to perpetuate, however. The idea that his picture is being taken will not infrequently take all the natural ease and grace out of his movements, and he has an unconquerable desire to "face the music," which is deadly to pictorial effect.

When the figures are to be small it is often possible to take them unawares; but in closer work this is hardly possible, and one must make every effort to obtain a natural and unconscious pose. One gets in the older countries, and possibly in some parts of our own, the groups of women washing by the side of a stream or tending flocks of sheep or goats. It nearly always takes more or less of an argument to induce humans of the "feminine persuasion" to submit to being photographed just as they are. The picturesque dishevelment that makes them good subjects for our purpose will all disappear if they are given a chance to "slick up."

If a personal experience may be pardoned, I once found a delightfully pretty and picturesque child picking up autumn-leaves at the edge of a wood near her home. With her plump, bare feet and crumpled pinafore of a nondescript color she was an ideal subject; but while I was placing my camera and making preparations for the exposure she slipped away — to return in a stiffly starched white dress, all her picture-possibilities ruined. A little investigation, however, disclosed the fact that the soiled pinafore still remained under the newly acquired finery, and the picture was secured, not, however, without protest.

But the sons and daughters of toil are not the only interesting models. It would be hard to imagine a more inspiring subject for an artist, whatever his means of expression, than sweet-faced girlhood among the blossoming trees of springtime. The trout-brook is a more appropriate setting for the boys in early summer, and the curving bank of a stream is usually a great aid in composition. It is not always easy to find the landscape which shall be the suitable background we seek. It must be exceedingly simple; must include nothing that will obtrude itself on the eye and draw it from the figures. If there is any pronounced convergence of lines in the background the figures should be placed at their focus. When so used they seem to lead the eye toward the point of interest, and are an aid in concentrating attention at the desired point.

The figure or figures should occupy a large part of the foreground of the picture, and should be well placed in regard to the margins of the picture-space. They should not be equidistant from the margins, but decidedly nearer one side, and as a rule should face toward the side on which there is more space. A pose facing the camera is seldom the best one, and the head should generally be turned at a slightly different angle from the shoulders, to give animation and avoid stiffness. If the person is employed in some natural occupation, the best results may be expected; but if this is not possible the attention should be directed elsewhere than toward the operator. Possibly some object outside the picture may furnish the interest, as in "The Song of the Lark," when the lark is not seen yet the tense listening attitude of the girl almost makes its song audible to one. In "The Angelus" also this is true, whereas in "The First Step," also by Millet, the father and mother are entirely absorbed in the child; and when several figures are introduced they should be interested in some one thing, otherwise unity is lost.

The subject is not an easy one to handle successfully, but when a well-selected and well-posed figure has been furnished with an appropriate and simple landscape-setting, something has been accomplished of which the maker can be proud, and feel that his labors are well repaid.

Working-Up the Negative on Onion-Skin Paper

During the last few months several articles on improving negatives have mentioned the method of the late A. Horsly Hinton of covering the glass side of the negative with a thin, translucent paper and doing the rough retouching on this. I have had occasion to give this method a thorough trial, and find it excellent for raising in value deep shadows, emphasizing a patch here and there, for working in skies, etc. During my trial of his method I hit upon a few dodges which may be of some use to others using this method.

There is on the market a writing-tablet of onion-skin paper, about $7\frac{3}{4}$ x $10\frac{1}{4}$ inches, which is beautifully adapted to this work for negatives $6\frac{1}{2}$ x $8\frac{1}{2}$ or smaller. For 8 x 10 negatives there is a thin, tough and translucent typewriter-paper, much used in making carbon-copies, which is also very good for the purpose. Both these papers are readily obtainable at any stationer's, and are inexpensive. They stand the necessary wetting without becoming flabby or tearing easily, dry out smoothly and take the pencil well.

In spreading the glue around the thin edge of the glass, in spite of the greatest care you will occasionally get spots of glue on your negatives — your best ones, generally. This will "raise" the gelatine, and is a nuisance to remove by rubbing with wet cotton or rag. I find that these spots show up in the prints as often as not, if not removed. If, however, instead of glue, a fairly thick solution of white shellac in alcohol is used (1 part shellac in $1\frac{1}{2}$ parts wood- or grain-alcohol), this annoyance disappears, and you will get at least *as good* adherence of the paper to the glass — personally, I think it sticks better. Then, when that inevitable spot does get on the negative, a very gentle dabbing with absorbent cotton, wet with alcohol, removes it instantly and dries in a very few moments, after which the spot is gone for good. So, at least, has been my experience.

In using the shellac one hint is important — the paper should be just damp — *not wet*. I soak the paper in water, blot thoroughly, air-dry a few moments, then stick in place, and after noting that it is adhering all around, set aside for about half an hour before trimming away the surplus paper and applying the pencil.

After applying the damp paper, and before it has had a chance to dry, the paper will *not* be entirely smooth, but will show a few wrinkles. These should disappear as the paper dries. Any attempt to stretch the paper in order to remove these will tear it where it folds over the sharp edge of the glass.

If it should be necessary to remove the paper, a rag dampened with alcohol and rubbed over the edges will take off the paper and shellac cleanly and leave the edges ready for the next trial. Wood-alcohol is the best for this work, both in making the shellac solution and for cleaning. It does not whiten the gelatine as grain-alcohol occasionally does.

L. C. Byck.

THE CRUCIBLE

A MONTHLY DIGEST OF PHOTOGRAPHIC FACTS

With Reviews of Foreign Magazines, Progress and Investigation

Edited by PHIL M. RILEY

Ansco Pyro for Development-Papers

THE Ansco Company now offers the following formula, which it is claimed gives beautiful results on development-papers:

A

Pyro	180 grains
Sodium sulphite, anhydrous	3 ounces
Potassium ferrocyanide (Yellow prussiate)	30 grains
Water	16 ounces

B

Sodium hydrate	60 grains
Water	16 ounces

For use, take 1 ounce of each stock-solution and 2 ounces of water. Add 1 drop of a saturated solution of potassium bromide to each 4 ounces of the diluted developer.

Prints develop in 1 to 1¼ minutes. The solution can be used repeatedly without stain. Soft results can be had by diluting the developer. It can be used for sepias as well as blacks.

Removing Hypo Without Washing

THE best hypo-eliminator is potassium permanganate. Put enough into any quantity of water to turn it pink; the presence of hypo will clear the solution. Continue to treat the negative with permanganate solution until, after continued immersion, the color is not removed.

An Old Daguerreotype Exposure-Table

THOSE who have found the PHOTO-ERA Exposure-Guide of sufficient value to become familiar with its characteristic appearance through frequent reference will find it interesting to compare it with the table below, reprinted from *The American Family Magazine* for May, 1840, published in Boston. It forms part of a very interesting article on the daguerreotype, incorporating translations from the original paper by the inventor, L. J. M. Daguerre. Most significant is the fact that the exposure-times given are entirely in minutes, there being a conspicuous absence of seconds or fractions of seconds. By such comparisons as this do we realize what we owe to the dryplate.

STATE OF THE WEATHER	HOURS OF THE DAY						
	8	9	10	11–1	1–2	2–3	3 and after
	Min.	Min.	Min.	Min.	Min.	Min.	Min.
Very brilliant and clear, wind steady from W. or N. W., very deep blue sky, and absence of red rays at sunrise or sunset. Time employed	15	8	6	5	6	7	12–30
Clear, wind from S. W., moderately cold, but a slight perceptible vapor in comparison with above. Time employed	16	12	7	6	7	8	15–40
Sunshine but rather hazy, shadows northward, not clearly defined. Time employed	25	18	14	12	14	16	25–40
Sun always obscured by light clouds, but lower atmosphere clear from haze and vapor. Time employed	30	20	18	16	15	20	35–50
Quite cloudy, but lower atmosphere free from vapors. Time employed	50	30	25	20	20	30	50–70

Ozobrome Materials

So many inquiries have been received that it seems desirable to state that materials for the delightful Ozobrome process of carbon enlargement are not obtainable in America, and must be imported direct of the manufacturer, Thomas Illingworth & Co., Ltd., Willesden Jct., London, N. W., England.

Blisters and the Fixing-Bath

BLISTERS on gaslight or bromide prints are most likely to appear upon placing them in the wash-water, the immediate cause being either a sudden change in temperature or allowing the water from a faucet to fall directly on the prints. But the real cause lies in the imperfect chemical action of the acid-alum fixing-bath. Either it has been entirely exhausted, or, what is far more likely, its hardening-properties have been impaired by the absence of sufficient acid.

Paper costs more than the fixing-bath, and it does not pay to overwork the latter. To fix two gross of 4 x 5 prints or an equivalent surface-area is about all that can be expected of a standard 64-ounce acid-alum bath. An exhausted bath has a characteristic clouded sediment, it will be frothy when violently agitated and suds will remain on the surface. Care must also be taken to keep the bath acid while in use. A chemical test may be applied if desired according to E. J. Wall in his article on the fixing-bath in PHOTO-ERA for March, 1916. Make a 10-percent solution of phenolphthalein in alcohol; put some of the fixing-bath into a graduate, and in white light let one or two drops of the alcoholic solution fall into it, and stir. If alkaline, a rich rose-red color is at once produced, and more acetic acid must be added until no change in color occurs upon further tests.

This change from acidity to alkalinity of the fixing-bath is due to the fact that each print transferred to it from the developer carries with it a certain quantity of alkali which in time will neutralize the acid of the fixing-bath. This explains the importance of thorough rinsing of the prints between developer and fixing-bath, if long life of the latter is to be ensured and stains are to be avoided. When prints are rinsed in an acetic acid stop-bath instead of water the alkali of the developer is neutralized before the print is immersed in the fixing-

Copyright, 1916, E. G. Dunning

DICKIE'S BREAKFAST
SECOND PRIZE — SUBJECT FOR PHOTO-ERA COVER
E. G. DUNNING

XUM

bath. This method is preferable, not only for the reasons already given, but because it checks development instantly when the desired depth has been reached, and prevents the possibility of uneven spots and streaks. It is the only way by which certainty of exact duplicate prints with identical values and gradations is ensured.

Always immerse prints quickly and completely in the fixing-bath, and face up. Air-bells forming on the surface of prints fixed face down, unless a short-stop bath has been employed, will prevent uniform fixation, development continuing under the air-bells and forming dark spots. When fixing prints in large quantities, continue to immerse them face up for about ten minutes and then turn the entire batch face down. Continue immersing more prints face up for another ten minutes and then remove the first batch to the wash-water and turn the second batch face down. In this way the different batches are kept separated and each print is thoroughly fixed.

Eyesight

Most workers in the photographic profession sooner or later have trouble with their eyesight, and many put it down to the peculiar effect of the electric light or the irritating fumes given off by flash-powders. I have also heard the cause attributed to too much smoking, and, again, to harmful effects of the red light. No doubt all of these things can cause trouble to the eyes, but in most cases the change is one that comes to almost every one in time, no matter what his profession may be. But the photographer, whose whole calling needs keen visual acuity, is apt to fancy that his profession suffers more than most.

The trouble usually shows itself in the form of finding an inability to focus the image properly on the ground-glass screen. Especially is this the case with interiors and picture-copying and portraits in a low key. In the case of outdoor-groups and bright landscapes the trouble may not be noticed, because the brilliance of the image adapts the pupil of the eye somewhat, closing it slightly, and thus sharpening up the image on the retina, much in the same way as the photographic image is sharpened by stopping down.

The trouble, nine times out of ten, is simply presbyopia, or old sight. It is not an error of refraction at all, but simply a physiological change, which is always taking place in all of us, and which usually shows its symptoms at about the age of forty or forty-five. If in youth there has been any degree of far sight — very often without it being known — the symptoms appear at an earlier age; while some are so short-sighted in youth that they never suffer from its effects. These are they who boast that at seventy they can still see to thread a needle.

When we are young we can bring to a focus on the retina of the eye objects which are close to us, such as the image on the focusing-screen — probably nine or ten inches from our eyes. But as we grow older, the minimum distance at which we can see things clearly increases, until there comes a time when it is greater than the distance we hold our head away from the screen when under the focusing-cloth. Then we complain, perhaps, that the electric light is affecting our eyes, whereas all we need is a pair of spectacles properly computed to bring our minimum distance of clear vision back to a convenient amount for focusing and reading. There should be no fear of losing caste by wearing them. They must be worn if good work is to be continued and the danger of permanent strain eliminated. So, as soon as the trouble appears, it is best to go to an oculist and place yourself in his hands.

Many workers resort to a focusing-magnifier when this trouble appears, and neglect the spectacles, which are necessary for reading and all close work. A magnifier can, of course, be very useful in its proper sphere — that is, for critical focusing of fine detail. One should be chosen of about two inches focal length. If it be of the telescopic pattern, when the best position has been found it may be fixed by means of a ring of cardboard cut off to the correct length and glued around. The proper way to set it is not to focus an image, but to focus up the grain of the ground-glass when the camera is facing a window. Then when the magnifier is fixed in the correct position, the sharp ground-glass will not be mistaken for a sharp image, which I have known to occur when a worker first uses a magnifier.

In the case of a retoucher or finisher, it is best to measure carefully the distance at which the work is kept from the eyes and to mention the type of work and the working-distance to the oculist. This will assist him to judge exactly what power of spectacle-lens to fit. A word should be said here of the danger of allowing the work to approach too closely to the eyes. There is no need to see the effect of every individual stroke of the pencil. To attempt to do so simply causes a continual strain upon the internal recti muscles of the eyeball — giving symptoms of which so many retouchers complain. By sitting well back to the work, the eyeballs will be more nearly parallel and the work will be seen as a whole.

Lastly, every four years or so the oculist should be revisited, because a change of power will be required. This is not because the eyes are getting weaker through wearing glasses. The visual acuity will probably be as good as ever, but new lenses will be required, because the accommodative power of the eye has become less. — A. G. Williamson, in *The British Journal of Photography.*

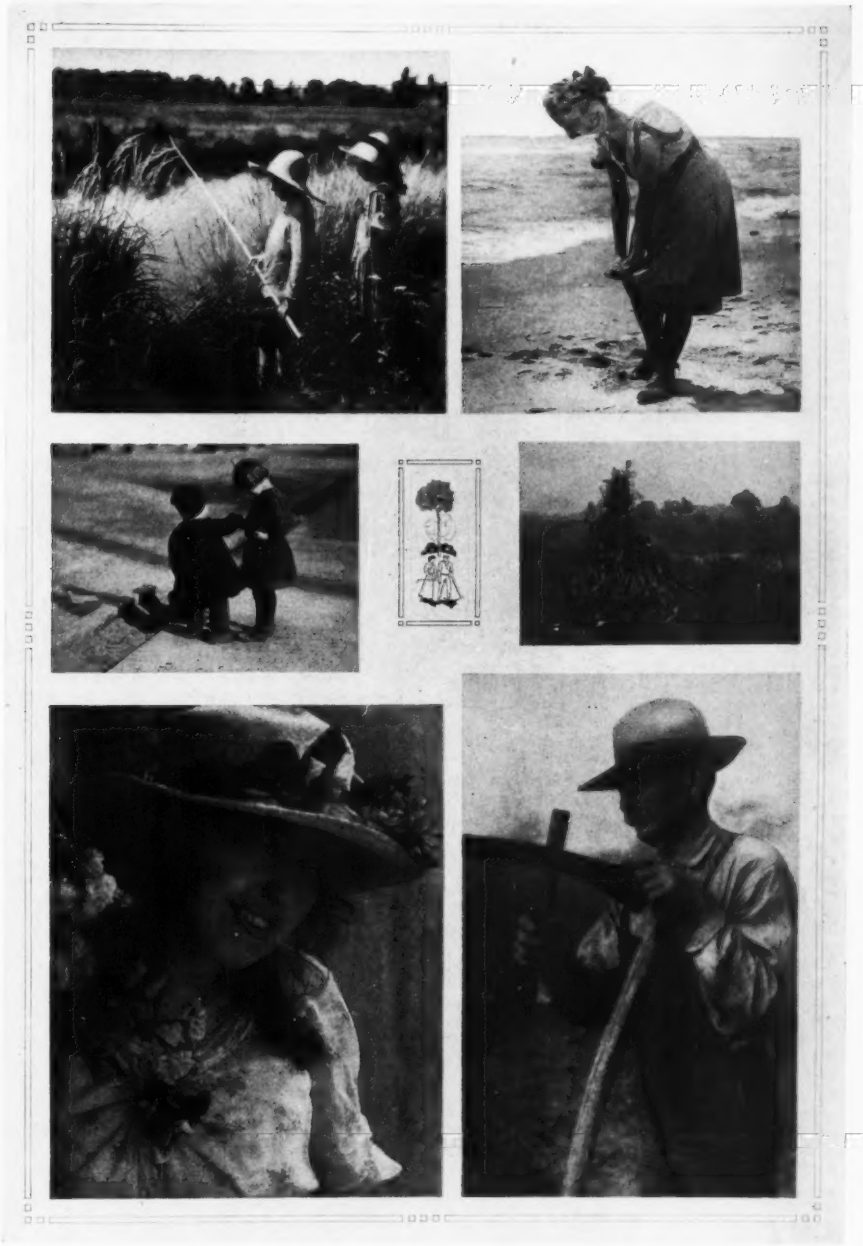
A Lasting, Non-Staining Pyro Tank-Developer

At the Croydon Camera Club, London, England, March 15, Mr. W. G. Cullen gave the result of some interesting experiments made by Kodak, Ltd., to discover a satisfactory substitute for the metol-hydroquinone developer for negative-work on a large scale. The following formula was advocated:

Sodium sulphite, crystals	10 ounces
Potassium metabisulphite	1½ ounces
Pyro	1 ounce
Sodium carbonate, crystals	3⅜ ounces
Potassium iodide	4 grains
Water	140 ounces

First dissolve the sulphite and metabisulphite together in the water brought to the boiling-point for a minute or so. The pyro, carbonate and iodide are added after the solution has cooled to normal temperature. A bath of this developer has been in use for six weeks, during which time three or four dozen half-plates a day have been developed in it. Nor is six weeks necessarily the limit of time during which this solution will remain in working-order and yield excellent, clear, stainless negatives. Of course the bath will slow down after about six days' use, and in about nine days it will cease to develop; but as soon as it slows down the bath should be revived by adding 1 grain of pyro per ounce of solution. Although the solution becomes discolored with the lapse of time, this has no deleterious effect on its developing and non-staining qualities.

The slight trace of potassium iodide has proved efficacious to prevent dichroic fog, which gave trouble when this experiment was first undertaken.



HONORABLE-MENTION PRINTS

SUBJECT FOR PHOTO-ERA COVER

Left to right: "Pals," B. F. Langland; "A Partial Wetting," William H. Zerbe; "Just Kids," A. M. Vinje; "Harvest-Time," Charles A. Hughes; "The Coquette," Alice Willis; "In Haying-Time," J. H. Field.

BEGINNERS' COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA, Round Robin Guild Competition
383 Boylston Street, Boston, U. S. A.

Prizes

First Prize: Value $5.00.
Second Prize: Value $2.50.
Third Prize: Value $1.50.
Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

A certificate of award, printed on parchment paper, will be sent on request.

Subject for each contest is ***"Miscellaneous"***; but only original prints are desired.

Prizes, chosen by the winner, will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books.

Rules

1. This competition is open only to members of the Round Robin Guild. Membership, however, is free to all subscribers; also to regular purchasers of PHOTO-ERA on receipt of their name and address, for registration, and that of their dealer.

2. All Guild members are eligible in this competition provided they never have received a prize from PHOTO-ERA other than in the Beginners' Class. Any one who has received only Honorable Mention in the PHOTO-ERA Advanced Competition still remains eligible in the Round Robin Guild Beginners' Competition; but upon winning a prize in the Advanced Class, one cannot again participate in the Beginners' Class. Of course, beginners are at liberty to enter the Advanced Class whenever they so desire.

3. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor from start to finish, and must be artistically mounted. ***Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Sepia-prints on rough paper are not suitable for reproduction, and such should be accompanied by smooth prints on P. O. P. or black-and-white paper having the same gradations and detail.

4. *Unsuccessful prints will not be returned unless return-postage at the rate of one cent for each two ounces or fraction is sent with the data.* ***Criticism on request.***

5. *Each print entered must bear the maker's name, address, Guild-number, the title of the picture and the name and month of the competition, and should be accompanied by a letter,* SENT SEPARATELY, *giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request.* ***Be sure to state on the back of every print exactly for what contest it is intended.***

6. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. If suitable, they will be published in PHOTO-ERA, full credit being given.

7. Competitors are requested not to send enlargements greater in size than 8 x 10 or mounts larger than 12 x 15, unless they are packed with *double thicknesses of stiff corrugated board, not the flexible kind, or with thin wood-veneer.* Large packages may be sent by express very cheaply and with indemnity against loss.

Awards — Beginners' Contest
Closed April 30, 1916

First Prize: William J. Wilson.
Second Prize: A. C. Sheldon.
Third Prize: Mrs. H. G. Reed.
Honorable Mention: Dr. W. G. Adams, Margaret Anderson, James Bowers, J. Louis Cunningham, H. B. Rudolph, M. C. Still, W. G. Takagi, D. A. Timmons.

Special commendation is due the following workers for meritorious prints: Marguerite Balthrope, G. M. Bibby, E. M. Boyd, J. F. Eden, B. S. Grenelle, Louis R. Hastings, Vincent Irwin, A. M. Kopcok, J. E. A. Lemieny, Irving S. Lovegrove, Louis R. Murray, Clarence A. Pierce, Kenneth D. Smith, Rev. Paulus W. Weber, Jos. G. Whetson.

Why Every Beginner Should Compete

THE trouble with most competitions is that they place the beginner at a disadvantage. If advanced workers be allowed to compete, beginners have little chance to win prizes, and so quickly lose interest after a few trials.

There are two monthly competitions in which prints may be entered with prizes commensurate with the value of the subjects likely to be entered. They are: The Round Robin Guild Competition and the PHOTO-ERA Competition. The former is the better one for a beginner to enter first, though he may, whenever it pleases him, participate in the latter. After having won a few prizes in the Beginners' Class it is time to enter prints in the PHOTO-ERA Competition for advanced workers.

As soon as one has been awarded a prize in the PHOTO-ERA Competition, he may consider himself an advanced worker, so far as PHOTO-ERA records are concerned, and after that time, naturally, he will not care to be announced as the winner of a prize in the Beginners' Class, but will prefer always to compete in the PHOTO-ERA Competition for advanced workers. In accordance with this natural impulse, it has been made a rule by the Publisher that prize-winners in the Advanced Class may not compete in the Beginners' Class.

To measure skill with other beginners tends to maintain interest in the competition every month. Competent judges select the prize-winning prints, and if one does not find his among them there is a good reason. Sending a print which failed to the Guild Editor for criticism will disclose what it was, and if the error be technical rather than artistic, a request to the Guild Editor for suggestions how to avoid the trouble will bring forth expert information. The Round Robin Guild Departments, including those of personal counsel and criticism, form an endless chain of advice and assistance if members will connect the links.

Toning with Copper

THE following bath is said to give a fine warm-brown tone to bromide or gaslight prints treated with it after fixing and washing. A one-percent solution of copper sulphate has sufficient ammonium carbonate added to it to redissolve the precipitate which first forms. A two and one-half percent solution of potassium ferricyanide is then made up, and to each ounce of this twelve minims of the copper solution are added.

Photography and Focus.

THE ROUND ROBIN GUILD

An Association of Beginners in Photography

Conducted by KATHERINE BINGHAM

This association, conducted under the auspices of PHOTO-ERA, and of which PHOTO-ERA is the official organ, is intended primarily for the benefit of beginners in photography. The aim of the association is to assist photographers by giving them information, advice and criticism in the Guild pages of PHOTO-ERA and by personal correspondence. Membership is free to subscribers and regular purchasers of the magazine sending name and address to PHOTO-ERA, The Round Robin Guild, 383 Boylston Street, Boston, U. S. A.

Blue-Print Processes

When one is on a vacation and wishes to know the results of one's photographic ventures without the bother of the more or less cumbersome equipment necessary for making developing-paper prints, the ever-ready and simple blue-print is an easy solution. It allows a reasonable amount of white light in loading, without damage, prints in sunlight and develops in water. It has no great latitude; and because a negative does not make a satisfactory print in this medium do not think it worthless, for it may do nicely on some grade of developing-paper.

The inclination in printing is to take the frame in too soon. The shadows should have a decided bronze color if the print is to hold up in the washing, otherwise the detail in the highlights will fade out, and the whole tone of the print will be weak and unsatisfactory. The washing should be thorough, that the whites may be clear, and the drying of prints in the sun is said to add to this brilliancy.

For some subjects the blue tone of the prints is very satisfactory. Such subjects as sea-views or moonlight-effects, for instance, are very suitably represented in this color. If, however, one does not like the blue tone for the subjects to be printed, it is possible to change the color by after-manipulations. Of the permanency of the results I am a trifle doubtful, and great care must be exercised in all manipulations to keep prints separated and free of finger-marks or other spots.

The formulas given are those suggested by A. J. Jarman. For platinum-effects take:

Water	12 ounces
Borax	2 drams
Strong ammonia water	2 drams

When the prints have bleached in this solution, wash well and then place in a saturated solution of gallic acid. As soon as the desired tone has been obtained, remove and wash well.

To obtain a sepia tone, prepare a stock-solution as follows:

Water	3 ounces
Tannic acid	1 dram
Hydrochloric acid	8 drops

For use, take 1 dram of this solution to 6 ounces of water. Place the prints in this diluted bath and allow them to remain for two or three minutes, then wash well and transfer to a solution of potassium carbonate, ¾ ounce to 15 ounces of water. When the desired color is obtained, wash well and dry.

Very interesting things may be done by the use of blue-print fabric retoned. If one lives in a university-town, or where there is a high school of sufficient size, a pretty sum may be earned by making pillow-tops and such like, using school-subjects. The most satisfactory thing to do, if much work of the sort is to be done, is to make enlarged negatives of the desired subjects.

One can go in for just as much elaboration of border-printing and so forth as he desires; but the most satisfactory pillow, after all, is one without the white border — one in which the whole space is filled by the picture. Of course, if one cares to undertake double-printing, and tint the border deeply, the effect is better, but the fabric is less easily handled in this way than paper, as it is prone to stretch out of shape when such large pieces are used. The subjects for such work must be rather large and forceful. A good picture of the school-buildings, the campus, the basket-ball, football or baseball teams, or any familiar scene that would appeal to the students.

Some very artistic arrangements of ferns and the more delicate flowers may be made and printed without the need of a negative. The slender curving fronds of the bulbet bladder fern are particularly suitable for this purpose. Pin-cushions and book- or magazine-covers may also be made in this way, and numerous other things will suggest themselves.

Troubles in Hot Weather

Many are the difficulties that lie in the path of the unsuspecting amateur who tries to pursue his usual course when the hot, moist weather of summer comes upon him. Things go wrong, and he is at a loss to account for the trouble, due wholly to temperature.

The chief difficulty is encountered in developing the film. If the temperature of the developing-solution rises much above 70 degrees, the action is greatly accelerated, and the image flashes up quickly all over the plate, looking like overexposure. The tendency, then, is to cut development short, and a flat negative is the result. The increased temperature also increases the softening-action of the developing-agent, and the plates are apt to frill at the edges. Great care must be taken to handle them as little as possible, and by no means to let the fingers touch the softened emulsion, as a very slight pressure will cause abrasion or blistering when in this condition. If a fresh fixing-bath has been prepared, be sure it has stood long enough to be approximately of the same temperature as the developer, as the dissolving chemicals will greatly lower the temperature, and too sudden a change from warm to cold will produce that irremediable catastrophe, reticulation, a condition in which the whole surface becomes checked by small lines, causing it to take on the appearance of an Italian mosaic.

When ice is obtainable, the best way is to make up the solutions with cooled water; and if much developing is to be done, set the tray in a dish of cracked ice. If ice is not obtainable, water may be cooled by allowing it to stand in a porous receptacle or by wrapping wet cloths around the container and thus cooling by evaporation. When the heat is excessive, it is sometimes best to soak the plates in a weak solution of formaldehyde before washing. This hardens the gelatine and prevents the frilling which might take place if the wash-water is warm.

XUM

FIRST PRIZE BEGINNERS' CONTEST

"THE GRAY SKIRTS OF A COMING SQUALL" WILLIAM J. WILSON

In the handling of developing-papers, also, care must be exercised, as blistering and frilling may result from the same causes that produce them in films and plates, namely, careless handling and sudden change of temperature. If the tap-water is too warm, it is better to wash prints by the five-minute bath-process — changing them ten or a dozen times, using cooled water and being sure that they are well separated by handling in each change.

All solutions will work more energetically and quickly at a high temperature, and it is often advisable to dilute them somewhat from the winter strength. When a saturated solution is used, as for bromide, the point of saturation is reached sooner in winter, and the solution will be less strong, something to be remembered when using all solutions made in that way.

Making Library-Paste

THE essential point or secret of making dextrine mounting-paste, commonly known as library-paste, and which is largely used for photographic purposes, is the temperature at which the dextrine is dissolved — namely, 160 degrees. If this temperature is adhered to the method can be depended upon to give an excellent paste, practically identical with that which is sold under various trade-names. The paste is used for mounting-purposes either as prepared or thinned down with water, according to the substance of the mount.

The formula follows:

White dextrine	$2\frac{3}{4}$ pounds
Water at 160 degrees	2 quarts
Oil of wintergreen	0.8 cc.
Oil of clove	0.8 cc.

Bring the water to 160 degrees F. and stir the dextrine in slowly, taking care not to allow the temperature to vary more than 1 degree either way until the dextrine has dissolved to a perfectly clear solution. As soon as the dextrine has passed into solution, add the essential oils slowly, stirring all the time. After this has been done, allow the solution to cool, and then pour it into bottles and cork. These bottles must then be set aside for a week or two to permit the paste to congeal. As soon as the paste "sets" it will have a perfectly white color, and will possess the firm consistency which is characteristic of library-paste. In order to use it, it is necessary to add a little water and work it around with a brush.

In preparing this paste care should be taken to use the best grade of white dextrine. The whole secret of the process of manufacturing is in maintaining the temperature at 160 degrees. At this temperature the dextrine undergoes certain peculiar molecular changes, and any serious variation from it results in a very inferior product.

Transactions of the American Metallurgical Society.

A Use for Matte Varnish

THOSE who use a lantern for enlarging know that it is a considerable advantage to insert between the light and the negative a piece of finely ground glass. If this is not obtainable easily, an excellent substitute can be improvised by coating one side of one of the lenses of the condensor with ordinary matte varnish. Unless the heat is so great as to injure the varnish, which is highly improbable in the case of an ordinary enlarging-lantern, the side next the light may be coated; but if there is any risk of this the inner surface of the lens which is next the negative may be chosen. It will be found that this evens up the illumination without necessitating more than a very slight increase in the exposure.— *Photography and Focus.*

XUM

ANSWERS TO QUERIES

Subscribers and regular readers wishing information upon any point in connection with their photographic work are invited to make use of this department. Address all inquiries to Correspondence Department, PHOTO-ERA, *383 Boylston Street, Boston, U. S. A. If a personal reply is desired, a self-addressed, stamped envelope must be enclosed.*

J. W. R. — It is difficult to answer your query, because it is such a general request, and to all appearances one for very elementary information, which probably you do not need. However, a few general **observations on the use and characteristics of actinometers** may assist you.

As to the actual manner of calculating exposures with the Watkins Meter the explanation in the instruction-book, pages 7 to 10 inclusive, is clear and concise, and this matter you of course understand. The usual trouble in the use of actinometers lies in testing the light. The tendency is to examine the sensitive paper too closely. It should be held at arm's length according to directions, because the standard tint is not always matched in color, and it is relative depth of tone that counts. At arm's length the test is not confused by any slight difference in color. Again, the method of counting seconds is inaccurate, and ought not to be advised. The only satisfactory way is to observe the second-hand of a watch. The desirability of this is shown by the Wynne combination of the actinometer and stop-watch which has come onto the market and is being received with approval.

Of course, it is obvious that the personal equation — we refer to individual eyesight — plays an important part in the use of any actinometer. Even in summer sunlight there is an interval of ten seconds, sometimes more, when the standard tint has about been reached, during which it is difficult to determine whether the sensitive paper has become as dark as or darker than the standard. The tendency in the use of an actinometer is to get the test-time too long. Of course, in ordinary work this is oftener a virtue than a fault; but in focal-plane work it is quite the contrary, except at high speeds, when underexposure is inevitable. At low speeds the great light-efficiency of the focal-plane shutter tends toward flat negatives, unless proper allowance has been made after a correct measurement of the light. The Watkins Focal-Plane Meter gives exposure-readings just one-half those of the Bee Meter, although many workers give one-third normal exposures when using a focal-plane shutter at low tension, because they believe the light-efficiency of the focal-plane to be three times that of the average inter-lens shutter. Thus, in using a Focal-Plane Meter, the best success will be had when taking the actinometer-reading at the earliest possible second when the paper approximates the tone of the standard tint. In other words — risk under-timing in testing the light, to avoid over-timing of the plate or film later.

Beyond this your attention is called particularly to the holding of the meter with respect to the light and subject according to the amount of shadow-detail desired in the picture. When the shadows are not important the direct sun-test should be taken, as in open landscape, for example. In other instances the light which falls upon the worst-lighted part of the subject in which detail is desired should be tested. When full detail is wanted in outdoor-work, the meter should be pointed to the sky in a direction at right-angles to the sun's rays, which should not fall upon the paper. All this is explained on page 14 of the instruction-book, and on page 15 there are ratios for reduction of the exposure-readings for such special subjects as snow-scenes, sea and sky.

Doubtless it is plain to you that, in order to stop the motion of an express-train or other high-speed object, the shutter-speed will probably have to be much greater than necessary to give the correct light-exposure for the plate or film in use. As stated on page 9, it is often convenient first to decide on the shutter-speed and use the meter to find the correct diaphragm to use, in which case it will be indicated against the selected speed after having set the meter properly in testing the light. This is particularly useful in focal-plane work at low tension. In very high-speed work the same information may be used in a different way. Suppose, for instance, that a shutter-speed of $\frac{1}{400}$ second is necessary, and that the light-test shows that $\frac{1}{100}$ second exposure will be required at F/5.6, the largest aperture. The meter shows that a working speed of F/4 is required to avoid under-exposure; but as the lens is only half that speed a 350 plate can be adopted instead of the 180 for which the reading was taken, thus meeting the difficulty.

C. I. R.— **An unsymmetrical anastigmat may be used for enlarging-purposes,** but it must be reversed so that the front lens, which, when used on an ordinary camera is towards the distant object, will be towards the bromide paper, whereas the back lens will be towards the negative. On this basis the lens will be employed under conditions similar to normal use in a camera, i.e., object *farthest* from the front lens and plate *nearest* the back lens. If an unsymmetrical lens is used for enlarging-purposes with the front lens towards the negative in the usual manner, the fine spherical correction will be lost, and even a fair result can be obtained only by the aid of a small stop. The more rapid the greater will be the defect.

T. H. A.— **The reason for your flat negatives made with a 3A Graflex fitted with a focal-plane shutter** is undoubtedly overexposure. The working-efficiency of such a shutter is fully three times that of the average between-the-lens shutter, for which most exposure-tables are intended. If you will adopt, for instance, the PHOTO-ERA Exposure-Guide, and divide the exposure-times given by three, you will probably succeed. Should you desire an actinometer, which actually measures the light-value with sensitive paper, the Wynne meter, costing $2.50, is excellent; also the Watkins Bee and Heyde meters.

P. J.— **There are no panchromatic films on the market,** either in the form of rolls or packs. Panchromatic plates are obtained by bathing ordinary dry-plates in a 1 to 50,000 solution of a mixture of pinachrome and pinacyanol, viz., 3 parts pinachrome stock-solution, 2 parts pinacyanol stock-solution, water 250 parts. The stock-solutions are made to contain 1 part of the dye in 1,000 parts of alcohol.

The bathing-solution is prepared in a measure, the plates are dusted and laid in a flat porcelain dish, which is large enough to hold nearly twice the number of plates it is desired to sensitize at one time. These are put at one end of the dish; the dish is then tilted, and the dye-solution poured into the other (empty) end, then the dish is tilted back, so that the dye-solution sweeps over the plates in one even flow, free of air-bells. The dish is now gently rocked for three minutes, then the plates are removed and washed in a good stream of running water for at least another three minutes, and finally dried. They will remain good for several months if kept under proper conditions.

PRINT-CRITICISM

Address all prints for criticism, enclosing return-postage at the rate of one cent for each two ounces or fraction thereof, to Correspondence Department, PHOTO-ERA, *383 Boylston Street, Boston, U. S. A. Prints must bear the maker's name and address, and be accompanied by a letter, sent separately, giving full particulars of date, light, plate or film, stop used, exposure, developer and printing-process.*

M. C. S.— "After the Storm" appears to have been somewhat underexposed. Perhaps, however, a softer-working paper will to a certain extent tone down the present spotty effects of highlights.

K. D. S.— "Homeward Bound" and "Shadows" provide an interesting comparison showing the more pleasing effect of the presence of human life. The other two subjects are not distinctive as compositions.

R. M.— A buff paper would give you a more pleasing effect of sunlight than you now have in black, due to the color of the highlights and the warmth imparted to the shadows.

J. B.—"In Icy Fetters" is marred by a vertical line of higher tone across the image, apparently a spot of uneven development, probably due to neglect of some detail in the use of the tank.

T. D. F.— Of your several photographs of the Panama-Pacific Exposition "A Foggy Sunset" is the most pleasing, doubtless due to its excellent sky-effect. "The Dome" is somewhat too flat in tone, doubtless the effect of overexposure.

J. B.— You can improve your little home-portrait by rubbing down the three extreme highlights in the background with alcohol or silver-polish and then printing on a soft-working paper.

H. E. A.— As a composition "Sis" might have been more pleasing had the newspaper at the extreme lower lefthand corner been removed, as it places a strong highlight far from the center of interest. Indeed, the entire table, with its doily and potted plant, might better have been omitted, for it plays no part in the picture, and is unnecessary. There should be more space above the head, and perhaps this can be remedied by more careful printing. Try this on a matte-surface paper and you will find it more appropriate than a glossy.

K. F.— Your attractive picture does not belong in the portrait-class, as it is a genre. Furthermore, the figure is placed in the center of the picture-area; but with the print trimmed properly, it would be greatly improved. Moreover, you would have two pictures if you were to trim the print as it has been marked, namely, a genre, and, at the right, a still-life. Then, too, the picture is printed on linen-surface paper, which, while excellent for purposes of exhibition, renders it unsuitable for reproduction by half-tone, for which a print on smooth matte paper, and also a trifle deeper, so as to get more detail and character in the highlights, is more desirable. In printing this picture a little deeper, please see to it that the left hand is retouched a little, so that the shadow cast by the flowers will not obscure it.

L. R. M.— Your snow-scenes are more interesting in composition than technique. Two of them are almost utterly lacking in detail and snow-texture, although this is not the case in "Going Home" and "Brook in Winter," the latter being the most pleasing in the lot. Of course "Pines in Snow" is several shades too dark in the printing.

Of your portraits the profile is the most pleasing, although it is not quite a profile, yet does not show enough of the far side of the face to be otherwise. The lighting is good, but in the full-face pose the light is much too flat.

Of your night-pictures "The Corner at Night" shows rather too much halation about the street-lamps. The boat in "Moon on the Lake" would better have been more nearly in the trail of moonlight across the water.

G. M. B.— Your photograph "Sisters" seems to have been made with a soft-focus lens at too great an aperture. Of course white clothing is about the most difficult thing to manage with this type of lens, and the best success is had when the lighting is soft and the aperture medium. The negative has been overdeveloped, and so lacks texture in the highlights.

Of course the contrast in "The Musician" is far too great, the result of underexposure and forced development.

H. M. K.— The only fault of consequence in your photograph "The Old Farm-House" is the post in the foreground directly in front of the figure on the porch. Clever retouching would obliterate and leave a splendid subject for enlarging.

"The First Cast" is undertimed and the distant trees are too black.

J. H. J.— Both of your photographs seem to be lacking in the essential elements of a pictorial composition. The scenes pictured must of course be beautiful to the eye if they are to appear so in the photographs.

C. K. B.— Your portrait of a little girl is notably good for its spontaneous pose and excellent values. The expression of the eyes, however, seems peculiar.

"YOUR MOVE" MRS. H. G. REED

THIRD PRIZE — BEGINNERS' CONTEST

SECOND PRIZE
BEGINNERS'
CONTEST

AN AUGUST AFTERNOON — A. C. SHELDON

L. C.— Your four prints are undoubtedly interesting to you as records, but the material does not lend itself to pictorial treatment. The architectural subject is particularly deficient in that the vertical lines are not plumb.

E. H. K., Jr.— Of your several home-portraits "Marguerite" and "The Girl at the Window" are best because of the unobtrusive surroundings and soft lighting of the faces. In "Ethel" and "Crying Child" the backgrounds are unfortunate. Care should always be taken to avoid extreme highlights in the backgrounds unless one possesses the skill of working them out in making the finished print.

D. V. S.— Your otherwise excellent home-portrait has been spoiled by halation at the window in the photograph "Fireside Reminiscence." This should be rubbed down with alcohol or silver-polish.

L. L. H.— "An August Landscape" shows too much diffusion for the size of the print, and incidentally the subject seems to lack a center of interest.

O. O. H.— Your small prints are of excellent quality, particularly "On the Path of the Steel Giant" and "Whether We Look or Whether We Listen." They need enlargement to make the most of their excellences.

J. L. C.— The "Wooden Stag," is surely a "freak of nature," and interesting as such, but it has hardly the pictorial quality necessary to make it a suitable print for reproduction in PHOTO-ERA. There are magazines that have departments devoted to such things, where it would be welcomed just for its "freakishness." The effect of the print is rather dull and flat, seemingly due to overexposure, but the data do not indicate that. Perhaps the trouble was underdevelopment, though the fogged look at the right would indicate a stale plate or the possibility that a leaky holder might be at fault. An upright plate at closer quarters would have cut out some of the objectionable parallel lines of the tree-trunks and given a better composition. Trimming 2½ inches from left and 1½ inches from right concentrates the interest and greatly improves the whole effect.

L. V. R.— The conception of "A Study — Lilies," is excellent, but unfortunately the turn of the head is such that the profile is lost and yet not enough of the far side of the face shows.

"The Periodical" seems to be in rather too high a key throughout, there being insufficient depth and richness of tone in the shadows.

J. G. B.— "Christmas Eve" displays excellent negative-quality, but it seems to lack a center of interest, and the street-lamps give a decidedly scattered effect.

"The Park in Winter" also seems to lack a center of interest. The lines of the roadway lead to nothing in particular, and finally out of the composition altogether.

A. J. V.—"Woodland" seems to lack a center of interest, although this may be due in part to the fact that your enlargement is not of as good quality as the contact-print, particularly in the foreground, which is too light. Perhaps the illumination was inadequate, but in that case the whole print would be improved if two or three shades darker. The very slender tree-trunk across the foreground is exceedingly unfortunate.

H. C. M.— Your photograph "The Park Bridge" appears to have been enlarged beyond a reasonable degree for so smooth a paper. The substitution of a rough paper will to a great extent conceal this defect. The composition is good.

P. P. P.— Your photograph of a chrysanthemum appears not to have been made with an orthochromatic plate and color-filter, because the green leaves are almost lost in the dark background, the result being that the flower is far too prominent. It is almost invariably desirable when photographing flowers in a vase to include the whole of it in order to give the impression of having a base to stand on.

K. D. S.— Your several prints display good technical work, but indicate no serious attempt toward pictorial treatment. The composition of "The Brook in Winter" could hardly be better, and that of "Adirondack Turkeys" is also good, except that the background of trees on the horizon-line is unfortunate, the effect being spotty and distracting.

XUM

Photo-Era Exposure-Guide

Calculated to give Full Shadow-Detail, at Sea-Level, 42° N. Lat.
For altitudes up to 5000 feet no change need be made. From 5000 to 8000 feet take ¾ of the time in the table. From 8000 to 12000 feet use ½ of the exposure in the table.

Exposure for average landscapes with light foreground, river-scenes, light-colored buildings, monuments, snow-scenes with trees in foreground. For use with Class 1 plates, stop F/8, or U. S. 4. For other plates, or stops, see the tables on the opposite page.

*These figures must be increased up to five times if the light is inclined to be yellow or red.
†Latitude 60° N. multiply by 3; 55° × 2; 52° × 2; 30° × ¾.
‡Latitude 60° N. multiply by 2; 55° × 2; 52° × 1½; 30° × ¾.
¶Latitude 60° N. multiply by 1¼; 55° × 1; 52° × 1; 30° × ½.
§Latitude 60° N. multiply by 1¼; 55° × 1; 52° × 1; 30° × ½.

HOUR	MONTH AND WEATHER																			
	JAN., NOV., DEC. †					FEB., OCT. ‡					MAR., APR., AUG., SEPT. ¶					MAY, JUNE, JULY §				
	Bright Sun	Hazy Sun	Diffused Light	Dull	Very Dull	Bright Sun	Hazy Sun	Diffused Light	Dull	Very Dull	Bright Sun	Hazy Sun	Diffused Light	Dull	Very Dull	Bright Sun	Hazy Sun	Diffused Light	Dull	Very Dull
11 A.M. to 1 P.M.	1/32	1/16	1/8	1/4	1/2	1/32	1/16	1/8	1/4	1/2	1/50	1/25	1/12	1/6	1/3	1/60	1/30	1/15	1/8	1/4
10–11 A.M. and 1–2 P.M.	1/25	1/12	1/6	1/3	2/3	1/25	1/12	1/6	1/3	2/3	1/40	1/20	1/10	1/5	1/2	1/60	1/30	1/15	1/8	1/4
9–10 A.M. and 2–3 P.M.	1/12*	1/6*	1/3*	2/3*	1*	1/16	1/8	1/4	1/2	1*	1/40	1/20	1/10	1/5	1/2	1/50	1/25	1/12	1/6	1/3
8–9 A.M. and 3–4 P.M.						1/5*	1/2*	1*	1 1/2*	3*	1/30	1/15	1/8	1/3	2/3	1/30	1/15	1/8	1/4	1/2
7–8 A.M. and 4–5 P.M.											1/20	1/10	1/5	1/2	3/4	1/20	1/10	1/5	1/3	2/3
6–7 A.M. and 5–7 P.M.											1/15*	1/8	1/2*	3/4*	1*	1/15	1/8	1/4	1/2	3/4
5–6 A.M. and 6–7 P.M.																1/10*	1/5*	1/3*	2/3*	1 1/2*

The exposures given are approximately correct, provided the shutter-speeds are accurately marked. In case the results are not just what you want, use the tables merely as a basis and increase or decrease the exposure to fit the conditions. Whenever possible keep the shutter-speed uniform and vary the amount of light when necessary by changing the stop. Focal-plane shutters require only one-third of the exposures stated above.

SUBJECTS. For other subjects, multiply the exposure for an average landscape by the number given for the class of subject.

1/8 Studies of sky and white clouds.

1/4 Open views of sea and sky; very distant landscapes; studies of rather heavy clouds; sunset- and sunrise-studies.

1/2 Open landscapes without foreground; open beach, harbor- and shipping-scenes; yachts under sail; very light-colored objects; studies of dark clouds; snow-scenes with no dark objects; most telephoto-subjects outdoors; wooded hills not far distant from lens.

2 Landscapes with medium foreground; landscapes in fog or mist; buildings showing both sunny and shady sides; well-lighted street-scenes; persons, animals and moving objects at least thirty feet away from the camera.

4 Landscapes with heavy foreground; buildings or trees occupying most of the picture; brook-scenes with heavy foliage; shipping about the docks; red-brick buildings and other dark objects; groups outdoors in the shade.

8 Portraits outdoors in the shade; very dark near objects, particularly when the image of the object nearly fills the plate and full shadow-detail is required.

16 to 48 Badly-lighted river-banks, ravines, glades and under the trees. **Wood-interiors** not open to the sky. **Average indoor-portraits** in a well-lighted room, light surroundings.

PLATES. When plates other than those in Class I are used, the exposure indicated above must be multiplied by the number given at the head of the class of plates.

For Perpetual Reference

For other stops multiply by the number in the third column

As all the figures in the table opposite are based upon the use of stop F/8, or U. S. 4, it does not appear here among the ratios for other stops.

U. S. 1	F/4	× 1/4
U. S. 2	F/5.6	× 1/2
U. S. 2.4	F/6.3	× 5/8
U. S. 3	F/7	× 3/4
U. S. 8	F/11	× 2
U. S. 16	F/16	× 4
U. S. 32	F/22	× 8
U. S. 64	F/32	× 16

Example

The factors that determine correct exposure are, first, the strength of light; second, the amount of light and dark in the subject; third, speed of plate or film; fourth, the size of diaphragm used.

To photograph an average landscape with light foreground, in Feb., 2 to 3 P.M., bright sunshine, with plate from Class 1, R. R. Lens, stop F/8 (or U. S. 4). In the table look for "Hour," and under the column headed "Bright Sunshine," note time of exposure, 1/16 second. If a smaller stop is used, for instance, F/16, then to calculate time of exposure multiply the average time given for the F/8 stop by the number in the third column of the table for other stops, opposite the diaphragm chosen. The number opposite F/16 is 4. Multiply 1/16×4=1/4. Hence, the exposure will be 1/4 second.

For other plates consult the table of plate-speeds. If a plate from Class 1/2 be used, multiply the time given for average exposure, F/8 Class 1, by the number of the class. 1/16×1/2=1/32. Hence, the exposure will be 1/32 second.

Speeds of Plates on the American Market

Class-Numbers. No. 1, Photo-Era. No. 2, Wynne. No. 3, Watkins

Class 1/3, P. E. 156, Wy. 350, Wa.
Ilford Monarch
Lumière Sigma
Marion Record
Seed Graflex
Wellington Extreme

Class 1/2, P. E. 128, Wy. 250, Wa.
Ansco Speedex Film
Barnet Super-Speed Ortho.
Central Special
Cramer Crown
Eastman Speed-Film
Hammer Special Ex. Fast
Imperial Flashlight
Seed Gilt Edge 30
Wellington 'Xtra Speedy

Class 3/4, P. E. 120, Wy. 200, Wa.
Barnet Red Seal
Cramer Instantaneous Iso.
Defender Vulcan
Ensign Film
Hammer Extra Fast, B. L.
Ilford Zenith
Imperial Special Sensitive
Paget Extra Special Rapid
Paget Ortho. Extra Special Rapid

Class 1, P. E. 111, Wy. 180, Wa.
American
Ansco Film, N. C.
Atlas Roll-Film
Barnet Extra Rapid
Barnet Ortho. Extra Rapid
Central Comet
Imperial Non-Filter
Imperial Ortho. Special Sensitive
Kodak N. C. Film
Kodoid
Lumière Film and Blue Label
Marion P. S.
Premo Film-Pack
Seed Gilt Edge 27
Standard Imperial Portrait
Standard Polychrome
Stanley Regular
Vulcan Film
Wellington Anti-Screen
Wellington Film
Wellington Speedy
Wellington Iso. Speedy
W. & W. Panchromatic

Class 1 1/4, P. E. 90, Wy. 180, Wa.
Cramer Banner X
Cramer Isonon
Cramer Spectrum
Defender Ortho.
Defender Ortho., N.-H.
Eastman Extra Rapid
Hammer Extra Fast Ortho.
Hammer Non-Halation
Hammer Non-Halation Ortho.
Seed 26x
Seed C. Ortho.
Seed L. Ortho.
Seed Non-Halation
Seed Non-Halation Ortho.
Standard Extra
Standard Orthonon

Class 1 1/2, P. E. 84, Wy. 160, Wa.
Cramer Anchor
Lumière Ortho. A
Lumière Ortho. B

Class 2, P. E. 78, Wy. 120, Wa.
Cramer Medium Iso.
Ilford Rapid Chromatic
Ilford Special Rapid
Imperial Special Rapid
Lumière Panchro. C

Class 3, P. E. 64, Wy. 90, Wa.
Barnet Medium
Barnet Ortho. Medium
Cramer Trichromatic
Hammer Fast
Ilford Chromatic
Ilford Empress
Seed 23
Stanley Commercial
Wellington Landscape

Class 5, P. E. 56, Wy. 60, Wa.
Cramer Commercial
Hammer Slow
Hammer Slow Ortho.
Wellington Ortho. Process
W. & W. Process Panchromatic

Class 8, P. E. 39, Wy. 30, Wa.
Cramer Contrast
Cramer Slow Iso.
Cramer Slow Iso. Non-Halation
Ilford Halftone
Ilford Ordinary
Seed Process

Class 100, P. E. 11, Wy. 3, Wa.
Lumière Autochrome

XUM

OUR ILLUSTRATIONS

WILFRED A. FRENCH

In one respect last month's cover-illustration was an innovation, in that hitherto no prize-picture has appeared in its usual place — the competition-section — and served as the initial picture of the same issue. Inasmuch as pictures for cover-designs were available — see Photo-Era Competition below — it was deemed advisable to begin at once with the timely prize-picture by Fannie T. Cassidy — "Killarney Roses."

This month's initial illustration is the picture that won the first award in the "Subject for Photo-Era Cover" competition. Its author, Dr. T. W. Kilmer, shares with such capable workers as Alfred W. Cutting and William S. Davis the honor to win several first awards in immediate succession, except that, in my opinion — and without detracting in the least from the credit of these gentlemen — Dr. Kilmer, in the present instance, has surpassed all his published efforts in the realm of portraiture, including even his superb portrait of Dr. E. L'H. McGinnis, which received first prize and appeared in June Photo-Era. The present portrait is a triumphant example of portrait-characterization — broad, forceful and expressive, and in the pictorial treatment is reminiscent of Peter Paul Rubens. His friends, no doubt, will agree with my estimate of this admirable head, that it represents Dr. Kilmer in the fulness of his artistic powers. The picture is repeated on page 28. Data: Light coming from east window, bottom half covered; 11 x 14 camera; 18-inch Verito lens; stop, F/5.6; 12 seconds; 8 x 10 Stanley plate; 8 x 10 contact print on Artura paper, Grade E.

The frontispiece, portrait of Marie Leonhard, exemplifies the sympathetic phase in portraiture as contrasted to the somewhat indifferent treatment accorded the same individual by another photographer, whose effort was reproduced, with comment, in March Photo-Era. Believing that Miss Leonhard's expressive countenance was capable of superior artistic interpretation, I induced the artist to sit to William Shewell Ellis. How well he succeeded in portraying the refined, sensitive features of the actress is demonstrated by the likeness published in this issue. No data.

The portrait on page 5 — the daughter of the photographer — displays the characteristics of Mr. Champlain's style in interpreting young womanhood. (See "How I Pose the Sitter," by Orrin Champlain, November Photo-Era, 1915.) Among the points worthy to be studied is the arrangement of the hands, the *bête noire* of many workers. Data: May, north light; 11 x 14 Century portrait-camera; 14-inch Goerz lens, full aperture; 1 second.

Among the master-photographers of America is Frank Scott Clark, of Detroit. In the portrait-painter, Julius Rolshoven — page 9 — a native of Detroit, Mr. Clark had an interested, responsive sitter, and being himself a painter, as well as a photographer and a student of human character, he succeeded in producing a likeness that not only reveals the personality of the man, but a practical understanding of the rules of art. No data.

The two beach-scenes — pages 10 and 11 — commend themselves to artistic workers on account of their timeliness and the unfailing charm of childhood. The first suggests a pleasing, natural arrangement, with an absence of consciousness and preparation. The spacing is excellent. It gives the feeling of roominess, so necessary to a picture of this character, and the tonal values are rendered faithfully. Data: August, 4 P.M.; diffused light; No. 7 4 x 5 Premo; Turner-Reich lens; stop, F/6.8; no color-screen used; $\frac{1}{25}$ second; 4 x 5 Wellington A. G. plate; pyro-soda; 6 x 8 Enlarging-Cyko print; enlarged from front of plate through Verito lens; stop, F/11.

The other beach-scene is also a familiar sight. The figures harmonize so well in their arrangement that they seem to suggest the skill of the camerist. Whether he prepared or just caught the group, Mr. Gottscho is entitled to the credit of possessing true artistic understanding, also fine technical skill. The setting is, indeed, admirable, and the feeling throughout is exhilarating. Data: July, 11 A.M.; good light; $3\frac{1}{4}$ x $5\frac{1}{2}$ Kodak; $6\frac{1}{2}$ R. R. lens; stop, 16; no color-screen; $\frac{1}{5}$ second; roll-film; pyro tank-powder; enlargement on P. M. C. No. 2, from part of negative to 10 x 12; developed with Hydro-Duratol.

"Sunset," page 13, bespeaks for its delineator — an "occasional" camerist — a profound appreciation of the beauties of nature. The viewpoint was chosen with artistic discrimination, as a result of which we are favored with a picture of engrossing interest. Data: Actual title is "Sunrise;" June, 4 A.M.; hazy but bright; Hawkeye camera, postcard size; Voigtländer and Sohn's Dynar fitted with Koilos shutter; $\frac{1}{300}$ second; film; 7 x 10 enlargement.

The author of the series of views of Sweden, pages 14 to 17, is known to the older readers of this magazine as an amateur worker of marked artistic ability. This ability is evidenced, in no uncertain manner, in the pictures that illustrate the pictorial possibilities of his native land, and which, till now, has escaped the ravages of war. If it be spared the hapless fate of other countries, it will merit the attention of those tourists who are accustomed to visit continental Europe; for Sweden offers an abundance of scenery which, while not of overwhelming grandeur, is of placid and varied beauty. Its people, with their own history, customs and costumes, offer a refreshing contrast to those of older countries. But let us all be patient until peace is restored, and the choice of a journey's goal will soon be made; for to travel is to enlarge one's store of knowledge.

Again we greet the work of an old acquaintance — a portrait entitled "In Corduroy," page 19. Like the portraits of comely girls that have appeared in preceding issues, the present one excels in lighting, plastic-effect, modeling and general good taste. Data: 8 x 10 studio-camera; $14\frac{1}{2}$-inch verito, F/5.5; August, 3 P.M., large north window; 2 seconds; Hammer plate; pyro.

The lessons taught by the pen and camera of W. S. Davis are always practical and helpful. The pictorial illustrations to his paper on tone-values, pages 20 to 23, are eminently instructive, and are recommended for careful study to every worker all along the line. Highlights and "lowshadows" without detail are to be avoided, except, perhaps, in extreme cases, and those are not pressing. No data.

The quasi-mythological subject, "Bacio di Luna," by Williamina Parrish, page 24, is a masterly achievement. The original print is the identical one that oc-

cupied a conspicuous place in the London Salon in 1915. The picture, somewhat suggestive of "Danäe and the Shower of Gold"— a favorite theme of the old masters — was made at Lake Como, Italy, in the daytime, although the title would seem to indicate otherwise. It bears the poetic title "The Kiss of Luna." The composition is certainly original, and, despite the adjacent masses of light and dark, it has unity, and the human figure dominates all. The picture cannot but invite criticism, including the assumption that the rock with the crowning figure, in itself, is sufficient for a complete and satisfactory picture, and that the rest of the landscape is superfluous. Certainly, the artist — had she so chosen — could have manipulated the negative so as to change the background of strongly contrasting tones to one of a possibly more artistically graded character. However gratuitous such a thought, it is merely one that will occur to speculative minds. Data: Afternoon, with full sun, at Lake Como; snapshot; 4 x 5 Premo camera; 11 x 14 kallitype print on Japanese tissue, enlarged from 4 x 5 film.

A more pleasing or harmonious composition to illustrate the subject "Figures in Landscape" than Dr. Ruzicka's "When We Were Little Boys," page 27, could scarcely be imagined. True, the figures here do not absolutely dominate the landscape; but eliminate them in imagination, or cover them up, and note the result! The younger readers of PHOTO-ERA, who may not be familiar with Dr. Ruzicka's pictures that accompanied the article by Phil M. Riley, "The Work of Dr. D. J. Ruzicka," published in PHOTO-ERA, September, 1913, should not neglect to look them up. They will be found very interesting and helpful. Data: 3A Kodak, equipped with a Zeiss-Kodak lens F/6.3 and a Compound shutter, and a 4 x 5 folding camera provided with a lens-board sufficiently large to take a 9-inch Smith Semi-Achromatic lens.

The Photo-Era Monthly Competition

CONTRARY to expectations — on account of the apparent difficulty of the subject for competition — the entries for the "Subject for PHOTO-ERA Cover" contest were numerous and meritorious. Not only have two of the prize-pictures already served their purpose, but the third, Mr. Dunning's genre, as well as several of the Honorable Mention prints, will be used similarly.

The portrait of a grand old man, by T. W. Kilmer, M.D., front-cover and page 28, has been mentioned at the beginning of this column. "Killarney Roses," by Fannie T. Cassidy, was referred to in the June issue.

The last of the prize-pictures, "Dickie's Breakfast," which received the second award, appears on page 31. In originality of idea, Mr. Dunning's effort is second to none. The theme is one that challenges the skill and resourcefulness of the most experienced craftsman. Mr. Dunning, an accomplished portraitist, met the difficulties of the situation in a highly creditable manner. Naught but unstinted praise is due him for his success. There is no need to enumerate the details of the severe and daring task. They are obvious. As a composition, "Dickie's Breakfast" is strikingly original and effective. There is unity in the *ensemble*, undivided interest and admirable workmanship. Lest quibblers ask about the halation, I will say that, first, the effect produced is true to nature; second, if obviated — which was possible — the result would have been unfortunate, in that it would have destroyed the balance of the composition. Suppression of obtrusive detail in this case reveals the artist's superior judgment. Data: 9 o'clock; morning-sunlight; Spencer soft-focus (Port-Land) lens; Eastman portrait-film; $\frac{1}{25}$ second; pyro, hand-developed; Eastman Etching Sepia, 8 x 10 Platinum print.

The group, page 33, "Pals," suggests a momentary pause in a long, tedious wait for a "bite." Were the picture one of arrested motion, the charge of "posing for effect" might be considered justifiable. The little group finds itself in a delightful setting of a meadow with a promising stream. Altogether a strikingly effective composition. Data: August 26, 8 A.M.; 3¼ x 5½ Premo film-plate camera; Zeiss-Kodak lens; F/6.3; Eastman film-pack; developed in tank with 20-minute pyro-developer; ½ second; stop, F/8; three-time ray-screen; enlarged on Artura.

"A Partial Wetting" shows a charming bather in a somewhat coquettish vein, uniting graceful action with pleasant animation, and relieved against a background of beach and water. A praiseworthy achievement, this! No data.

The group of youngsters, by A. M. Vinje, must be charged to the treacherous activity of a pocket-equipment. The element of humor imparts value to this little snapshot, for which no apology on the score of workmanship is necessary. Data: May, 3 to 4 P.M.; sunlight, slightly hazy; Press Graflex; 12-inch Dagor; stop, F/8; $\frac{1}{100}$ second; Standard 5 x 7 plate; pyro in tray; M. Q.; Azo C. Hard; no retouching or "dodging" in printing.

Corn-shocks in a row, as a camera-subject, lack novelty; not so, however, one solitary corn-shock, particularly when favored with so picturesque a setting as the one by Charles A. Hughes. Data: October, late afternoon; misty; Seed L. Ortho; hydro-metol; Wollensak R. R.; stop, 8; 1 second; Azo print.

"The Coquette" invites attention. She will not be denied. Owing to the broad-brimmed hat that she wears, the face is in grateful shadow, enhancing the dark complexion that is undoubtedly hers. The picture is effective, too, because the hat, dress and coiffure are yielding in outline. Data: June, 11 A.M.; bright sun; 5 x 7 home-portrait; Zeiss Tessar; stop, F/6.3; Eastman portrait-film; pyro-acetone; Velours enlargement.

The mower lends himself admirably to a design intended to be striking — to arrest attention. The lighting is exceedingly good, imparting character to the costume and shading the face and hands of the figure. The low tone thus produced gives fitting substance and power to the subject. No data.

The Beginners' Competition

THE winter-landscape, page 36, with its own, natural sky, is composed with care and an eye to balance of light and shade, although the distant trees, at the left, appear a little too insistent for a thoroughly satisfying artistic effect. The foreground is very pleasing and acts merely as an accessory to the general pictorial scheme. A little local negative-work would tend to improve several black places at the right. Data: March 17, 1916, 4 P.M.; 2¼ x 3¼ Icarette; 3½-inch Carl Zeiss Icar; 4x color-screen; stop, F/16; light diffused by clouds; ½ second; N. C. film; Eastman's powders in tank; P. M. C. No. 2 Hard; Amidol.

The landscape, page 39, is typical of the country that runs along the Blue Ridge Mountains, and resembles very strongly a picture by L. F. Brehmer of a view in the Green Mountains with Mt. Kellington in the distance, and published in PHOTO-ERA several years ago. According to the art of picture-making, this ingratiating view appears to lack satisfying proportions, due chiefly to the group of trees, at the left, which are the prominent objects. To adjust this seeming defect, the beautiful right-hand section, including the mountains, would need to be sacrificed. To obviate such an act of vandalism, I would suggest that the negative be made to yield two different prints, each a complete and

(*Continued on page 47*)

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ON THE GROUND-GLASS

WILFRED A. FRENCH

Our February Snowshoe Picture

ANENT the matter of faked photographs, which I made the subject of an editorial in the May issue, a subscriber took exceptions to my analysis of the picture "Snowshoe Tracks," the cover-design for February, 1916. See "Our Illustrations," page 92. Declaring himself thoroughly familiar with the practice of snowshoeing and the sort of marks the shoes produce in the snow, he virtually knocked my remarks into a cocked hat. Not being an expert in this method of self-propulsion, I referred my correspondent's criticism to the leading firm in sporting-goods in Boston, whose snowshoe expert declared it to be perfectly logical to assume that the photograph by Dwight M. Boyden was taken by the snowshoer immediately after making the tracks. This opinion was confirmed by a sportsman of considerable experience, both from a photographic and snowshoeing standpoint. His reasons are that the tracks in this picture are defined very sharply, and that, if the photograph was taken any length of time afterwards, the tracks would partly fill in, either from the wind or from the top crust caving in.

Titles of Pictures

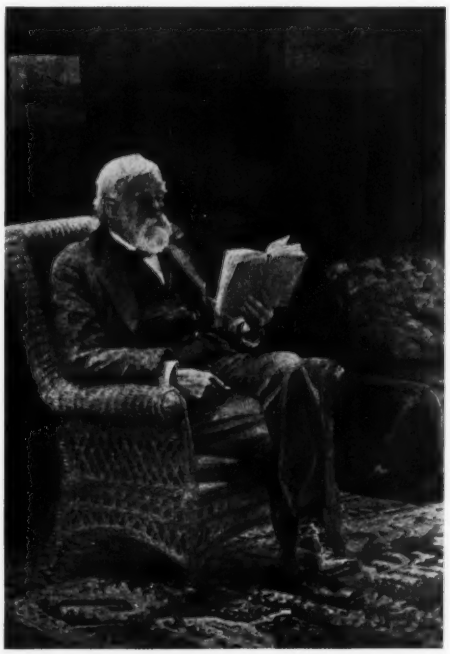
A MATTER that has been mentioned before in this department is the lack of originality of titles to pictorial photographs. As a result, contributors have avoided many threadbare titles; but of the new workers not a few still cling to such time-worn designations as "Windswept," "Meditation," "Windy Day," "Study," "The Meadow-Brook" and "Close of Day."

Those workers who find it hard to invent titles to their pictures — although it is more logical to begin with an idea and suit the picture to it — may benefit by the undeniable freshness of the names of paintings by Jean Crotti, exhibited, recently, in the Montross Gallery, New York. I have not seen the pictures, so cannot vouch for the character or quality of the artist's interpretive gifts; but it would be interesting to see the way amateur-photographers of ability and imagination would express these suggestive motives. Here is the list:

1. Creation of Man.
2. Sensitive.
3. Perfumes of Life.
4. ? + !! = !?!
5. Doubtless.
6. Why?
7. An Eternal Instant.
8. Simply.
9. Of Course.
10. Unexpected Caresses.
11. Much or Nothing.
12. That Depends.
13. Well Rather!
14. Isn't it?
15. Because.
16. Eh?
17. Sure.
18. Intimate.
19. You Mustn't.
20. (Title Withheld).

The Reading-Pose in Portraiture

PROMINENCE has been given in these pages to poses in portraiture that are neither consistent nor natural, though pleasing in effect. A favorite pose is that of the sitter reading a book or a letter. In most cases the book is held by the sitter in his lap, which is about twice the distance required for the average normal vision. I admit that the book or letter held at the logical distance from the eyes, which is usually 16 inches, might conflict with the artist's plan for a pleasing composition; but if the portrait-painter considers it admissible, why should not the photographer? Charles Copeland, the Boston painter, illustrates this point very admirably in his portrait of Alfred Ordway, published in PHOTO-ERA for November, 1904, and given, here, in conveniently reduced form. It all depends upon the treatment (lighting), although for the sitter to hold reading-matter in such a position several seconds presents a technical difficulty that most photographers may not care to face.



FROM A PAINTING BY CHARLES COPELAND

Of course, if the object of temporary interest is not printed matter, but an illustration, and one that may be seen easily at a distance of twenty inches or more, the pose is justifiable, and beyond the pale of criticism, except, perhaps, on the score of being overworked. The reading-pose, if reproduced literally, has one really objectionable feature, however — and one I have mentioned several times — and that is, the eyes appear to be closed, thus representing the sitter as if asleep. Like the lost eyes in a profile, this is one of the lost arts in portraiture, and can be remedied by overcorrection in directing the eyes.

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EVENTS OF THE MONTH

Announcements and Reports of Club and Association Meetings, Exhibitions and Conventions are solicited for publication

Commercial Photography at Cleveland

A GREATER effort is being made to interest the commercial photographer in the P. A. of A. convention this year than ever before. For the first time in the history of the association there will be an exclusive class for commercial work, also accompanied by lectures and demonstrations of importance. Membership costs only $2.25, payable to Jno. I. Hoffman, Secretary, Twelfth and F Streets, Washington, D. C., and every commercial man will profit by exhibiting, whether able to attend the convention or not. Prints, not exceeding three, should be addressed to Ryland W. Phillips, 917 Schofield Building, Cleveland, Ohio, marked "Commercial Class," and sent to reach there not later than July 17.

Mr. W. H. Bass, of Indianapolis, one of the most successful commercial men in the country, will give an illustrated lecture on "Building a Commercial Business," covering such points as sales-management, collections, figuring costs and advertising.

Mr. Ben. G. Heiser, of Cleveland, will also give practical demonstrations on the technical side of the work, contrasting right and wrong methods of preparing and photographing various articles of merchandise.

Messrs. Bass and Heiser will also judge the pictures entered in the commercial class, and be in attendance during the week to discuss the pictures with those interested. Surely this unusual opportunity to learn how to improve quality and make a greater financial success is one not to be missed.

Sending Postage-Stamps

MANY things are done wrong because done in haste, and haste makes waste. A postage-stamp, or a strip of stamps, should *not* be attached to the letter by a corner or an edge, because, in being detached, such stamps frequently get injured, and they cannot be used as effectually as new ones. It is a poor compliment to the recipient. If it is too much trouble to enclose stamps in a piece of paraffined paper or in a small envelope, the sender may attach them properly, viz.:

Slightly moisten the center of the stamp, at the back, and then attach it to the letter. The reason for so doing is obvious.

Never — as is done frequently — place the stamps loosely in the envelope, between the letter and the envelope. This is a very careless practice and, unless discovered by the recipient, the stamps may be regarded as not having been received.

Where Is This Place?

UNDER this caption we published a picture on page 205 of the April issue, and offered to present PHOTO-ERA for 1916 to each person sending a correct reply. On the closing-date, June 1, the only persons who had identified the locality were Miss Emily G. Hewey and Mr. Brooks Wells. The following is an extract from Mr. Wells's letter:

"The little 'island' you show on page 205 of your April issue is not quite, but almost, an island, and supports the picturesque little fishing-town of Lubec, Me., where many millions of small herring are boiled in oil and packed in sardine tins. It has also the distinction of being *nearly* the most easterly town in the United States, and is separated from the island of Campo Bello, Canada, by a narrow strait through which the tidal currents rush tumultuously, as is shown in the enclosed photograph, which I made last Summer.

"With best wishes for your continued success,

BROOKS WELLS."

Another reader, needless to say a woman, ingenuously asked us: "Is it not Lubec, Me., taken from across the Narrows, on or near the Campo Bello shore?" To her a six months' subscription was gladly awarded.

Among the many guesses, some of them highly amusing, were Halifax, Nova Scotia; San Juan Hill, Cuba; the Isle of Wight, and the following, which can hardly be considered a bull's-eye:

Dear Sirs:

The photograph "Where is this place?" published in the April PHOTO-ERA, is Tsing-tau, China, unless I am very much mistaken. The general shape of the "island," which is not an island, but a point of land helping to form Kiao-Chau Bay, is very much like that place, and the buildings, while too small to be positive about, resemble closely those put up by the Germans.

It has been almost seven years since I was there, as an American bluejacket, for only a few days, so I can hardly be positive from so small a reproduction.

Yours truly,

R. T. C.

Frederick Pohle, Inc.

THE well-known and popular studio at 9 West Chippewa Street, Buffalo, N. Y., has been incorporated under the above style, the incorporators being Frederick Pohle, A. O. Titus and Mrs. M. A. Pohle. Mr. Pohle has long been recognized as one of the ablest and most successful American portraitists, and Mr. Titus is well remembered both for his portrait in the Daguerre Memorial Institute permanent collection and for his posing-demonstrations in expression, character-study and facial delineation at the P. A. of A. convention at Indianapolis last year.

The British Ministry Pays a Fine

ENGLISH courts have long enjoyed a world-wide reputation for justice quick and sure, which is quite as true of cases involving photography as any others. Surely, the reputation for quickness and certainty has been maintained in the latest instance, though, perhaps, the outcome might be more accurately described as judgment than as justice. It seems that a prominent photographer was instructed by the Ministry of Munitions to photograph a munition-factory in his vicinity, and, upon proceeding to do so, was at once summoned under the Defence of the Realm Act. In response to his appeal to the Ministry of Munitions, an official communication was despatched to the Chief Constable explaining that the photographer was acting in the employ of the Government, and requesting the withdrawal of the summons. This the police declined to do, the decision of the bench being that, because the photographer was not equipped with the regulation permit of a competent military or naval authority, he must pay a fine of five pounds and costs. More amusing still, both were paid by the Ministry of Munitions.

Photo-Era a Reference-Library

(Continued from June issue)

THERE is no better reference-library of photography than that provided by back numbers of PHOTO-ERA. The variety of subjects treated has been great; the writers include the best authorities and most successful practical workers, both professional and amateur, and most of the articles are illustrated. Regular readers who have kept a file of the magazine, or had each volume bound, will find the appended classified lists and those to be published in subsequent issues of value for reference. **Missing copies may be had at 25 cents each as long as the supply lasts.**

ANIMALS AND PETS

Photographing Dogs	Arthur G. Eldredge	June, 1915
My Animals and My Camera	Käte Hecht	Mar., 1914
Animal-Studies	William S. Davis	May, 1913
Cats and Kittens	Katherine Bingham	Dec., 1912
Animal-Photography	John F. Jones	Sept., 1910
A Chat about Cats and the Camera	Carine Cadby	Feb., 1910

PORTRAITURE

How I Pose the Sitter	Orrin Champlain	Nov., 1915
Photograph the Baby!	Albert Niess	April, 1915
Home-Portraits of Little Children	Katherine B. Stanley	Dec., 1914
Indoor-Portraiture	Katherine Bingham	Sept., 1914
Outdoor-Portraits	Katherine Bingham	July, 1914
The Ideal Portrait-Negative	David J. Cook	June, 1914
Group-Portraiture	C. E. Kelsey	Jan., 1914
The Camera as an Interpreter of Human Character	E. H. Clement	Dec., 1913
A Study in Backgrounds	Sidney Allan	Nov., 1913
Individuality in Portrait-Photography	E. O. Hoppé	Oct., 1913
Incongruous Backgrounds	Wilfred A. French	April, 1913
Portrait-Photography for Amateurs	J. G. Allshouse	Feb., 1913
At-Home Portraiture	Katherine Bingham	Jan., 1913
Home-Portraiture	David J. Cook	Oct., 1912
Portraiture and Life	F. C. Tilney	Sept., 1912
Portraiture Out of Doors	David J. Cook	Sept., 1912
The Vice of Retouching	W. S. Crolly	Mar., 1912
Color-Values in Portraiture	Paul Lewis Anderson	Nov., 1911
Home-Portraiture That Is Different	Felix Raymer	Sept., 1911
Flesh-Values in Portraiture	A Symposium	Aug., 1911
Portraits without Retouching	Arthur Hammond	June, 1911
Some Thoughts about the Portrayal of the Human Figure	W. Ide	May, 1911
Some Notes on Home-Portraiture	Katherine B. Stanley	April, 1911
Indoor-Portraiture in Dull Weather	J. Peat Miller	April, 1910
Characterization and Individuality in Portraiture	Julius Robinson	July, 1909
Home-Portraiture	Fedora E. D. Brown	Dec., 1908
Hands in Relation to Face	Carine Cadby	Nov., 1908
Tonal Values in Portraiture	Dudley Hoyt	Nov., 1908
Home-Portraiture Using an Ordinary Window	Felix Raymer	May, 1908
Notes on Flashlight-Portraiture	F.J. Mortimer,F.R.P.S.	Feb., 1907

MISCELLANEOUS

Night-Pictures	Katherine Bingham	Dec., 1915
The Possibilities of Mud-Puddles	William S. Davis	Oct., 1915
Vacation-Pictures	Katherine Bingham	Oct., 1915
Interiors with Figures	Katherine Bingham	Mar., 1915
Foregrounds	William S. Davis	Jan., 1915
Photography Among City Byways	Allen E. Churchill	Oct., 1914
Twentieth Century Stereo-Photography	Wilbur C. Smith	July, 1914
Still-Life	Katherine Bingham	Jan., 1914
Home-Scenes	Katherine Bingham	Dec., 1913
The Art of Book-Illustrating	Charles S. Olcott	Nov., 1913
Interiors with Figures	Katherine Bingham	Nov., 1912
Aëroplane-Photography	Charles G. Grey	Aug., 1912
How to Obtain and Use Cloud-Negatives	G. T. Harris	July, 1912
Panoramic Pictures with an Ordinary Camera	I. W. Blake	June, 1911
Photography at Night	Frank Sayles Dort	Mar., 1911
Hunting and Picture-Making Reminiscences	Charles G. Willoughby	Nov., 1910
Photography and Civic Improvement	J. Horace McFarland	Oct., 1910
Picturing Indians with the Camera	Frederic I. Monsen	Oct., 1910
How Wild Birds are Photographed	Chester A. Reed	May, 1910
Photographing Statues	Richard Percy Hines	April, 1908
Theatrical Photography	Arthur Payne	July, 1907
Firelight-Effects by Daylight	Henry Essenhigh Corke	June, 1907
Needleholes in Paper	Elwood Crane	May, 1907

SLIDES AND THE OPTICAL LANTERN

The Enlarging-Lantern for Making Slides	E. Murray	April, 1915
Lantern-Slides in Natural Colors. I	William H. Spiller	Feb., 1915
Lantern-Slides in Natural Colors. II	William H. Spiller	Mar., 1915
The Breakage of Condensing-Lenses	Dr. A. Klughardt	Dec., 1914
Making Lantern-Slides at Home	Allen E. Churchill	Feb., 1914
Lantern-Slides by the Powder-Process	Harold Holcroft	Jan., 1913
Comparison of Methods of Making Lantern-Slides	Louis Derr	Feb., 1912
Stand-Development for Lantern-Slides	H. Bernard Ward, M. Sc.	Feb., 1912
Lantern-Slides Direct in the Camera	W. L. G. Bennett	Nov., 1911
Some Successful Lantern-Slide Tones and How to Use Them	T. Thorn Baker, F.C.S.	Feb., 1911
The Lantern at Home	C. H. Claudy	Feb., 1911
Projection of Opaque Objects	C. H. Claudy	Jan., 1910
The Coloring of Lantern-Slides	Edward Little Rogers	Jan., 1909
On the Care and Use of Lantern-Slides	F. A. Waugh	Dec., 1907
A Practical Introduction to Lantern-Slide Making	Rev. Thomas Perkins	Mar., 1907

ENLARGING

Determining Correct Exposure in Enlarging	W. R. Preston	Dec., 1915
A Home-Made Adjustable Daylight Enlarger	Bruce Keith	Sept., 1915
An Enlarger for the V. P. Kodak	F. W. Bassett	Sept., 1915
A Home-Made Copying- and Enlarging-Camera	James Thomson	May, 1915
Enlarging from Unsuitable Negatives	Rev. A. E. Murray	May, 1915
Making Improved Negatives by Photographic Enlargements	P. K. Turner	April, 1915
Softening the Definition when Making Enlargements		Mar., 1915
A Parabolic Reflecting- and Enlarging-Lamp	F. A. Fahrenwald	Feb., 1915
The Breakage of Condensing-Lenses	Dr. A. Klughardt	Dec., 1914
A Simple Device for Making Enlargements	R. W. Dodson	Dec., 1914
Enlarging with a Fixed-Focus Enlarger	Phil M. Riley	Aug., 1914
Washing Bromide Prints	Lehman Wendell	Aug., 1913
Enlarging wit a Box-Camera	Lehman Wendell	Mar., 1913
How to Make an Enlarging-Lantern	William S. Davis	Oct., 1912
Enlarging wit a Soft-Focus Lens	Arthur Hammond	Feb., 1912
Fixed-Focus Enlargers	Leighton P. Coleman	Sept., 1911
Enlarged Negatives by Reversal	Charles Jung	Sept., 1911
A Home-Made Apparatus for Enlarging from Nature	John L. Wellington	May, 1911
Adjusting the Enlarging-Camera	C. Welborne Piper	Sept., 1910
Simultaneous Printing and Development of Enlargements	F. J. Mortimer, F.R.P.S.	July, 1910
Diffusion of Focus in Enlargements	F. J. Mortimer, F.R.P.S.	Dec., 1909
Enlarging by Incandescent Electric Light	A. E. Swoyer	Nov., 1909
Enlarging by Arc-Light without Condensors	L. F. Mitten	Sept., 1909
Enlarged Copies Direct	A. E. Swoyer	June, 1909
Enlarging with Your Own Camera	Edward C. Day	Feb., 1909
Enlarged Negatives from Transparencies	Joseph Knoffl	Jan., 1909
Enlarging by a Novel Method	James W. Russell	Dec., 1908
Making Enlarged Paper-Negatives	George C. Elmberger	July, 1908
Enlarging on Gaslight Paper for Reproduction	E. F. Keller	July, 1908
Further Notes on Exposure in Enlargement	Frank H. Jeffree	Feb., 1908
Daylight Enlarging with a Pocket-Camera	E. R. Plaisted	Oct., 1907
Exposure in Enlargement	Frank H. Jeffree	Sept., 1907
Enlarging with the Lantern	C. H. Claudy	June, 1907
Combination Printing in Enlargements	C. Winthrope Somerville, F.R.P.S.	June, 1907
The Use of Bolting-Silk	F. J. Mortimer, F.R.P.S.	Jan., 1907

COLORING

Coloring Prints with Oil-Colors	Lehman Wendell	Jan., 1914
Coloring Photographs with Transparent Watercolors	B. I. Barrett	Mar., 1911
The Coloring of Lantern-Slides	Edward Little Rogers	Jan., 1909
How to Color Photographs. I	B. I. Barrett	Dec., 1907
How to Color Photographs. II	B. I. Barrett	Jan., 1908
How to Color Photographs. III	B. I. Barrett	Feb., 1908
How to Color Photographs. IV	B. I. Barrett	Mar., 1908
How to Color Photographs. V	B. I. Barrett	April, 1908

(To be continued)

XUM

Our Illustrations

(*Continued from page 43*)

attractive picture, comprising two-thirds of the picture-area beginning at the left and the right respectively. The material for such a process, as here presented, is ample and attractive in everything that constitutes an ideal summer-landscape. The values, perspective and definition are admirable. Data: August, 2 P.M.; intense sunlight; 3A Kodak; R. R. lens; stop, U. S. 16; 3-time color-screen; quick bulb-exposure; Standard Orthonon plate; pyro-tank; enlarged on No. 6 Bromide.

The delightful genre, page 38, represents a class of subjects in which PHOTO-ERA workers are beginning to show a commendable interest. The effort to portray child-life in an artistic fashion, as exemplified by Mrs. Reed, is grateful in more senses than one. The girl dressed in light and the boy in dark, marks the contrast the more sharply, and gives snap to an episode that suggests contemplation. The chance of success with such subjects is greater in the open — preferably on a covered veranda — than indoors. Data: Taken on front-porch; noon; bright light; stop, U. S. 8; Hammer Blue Label, 3¼ x 4¼; Rytol; tray-development; print on Azo A. A.

A Photograph as a Punishment

THE first instance of this nature to come to our notice is reported by *Abel's Photographic Weekly*. It seems that an intoxicated man who had fallen in the street was arrested and taken before a Baltimore judge in the Central Police Court. The judge contemplated the prisoner, who was grimy and bloody from the top of his head to his shoulders and had a skinned nose, and finally said:

"The sentence I impose upon you is that you have your photograph taken just as you look now, and that you look at it every day for the next year. Just to see yourself as others have seen you I will dismiss the charge against you, but that photograph must be taken."

Of course it all depends on the man, but there are undoubtedly instances in which such a course would prove of real benefit, far greater than any ordinary sentence within the power of the court to impose.

California Camera-Club

THE fourth international photographic exhibition, conducted by this flourishing camera-club of California, will be held in the Palace Hotel, San Francisco, Cal., November 4 to 12, 1916.

As this event is one of general interest, on account of the high artistic standard of work shown, it is hoped sincerely that American workers will bear the matter in mind. In our next issue we hope to publish further details, which are now being prepared by the committee in charge.

A Creditable Prize-Competition

WITH commendable enterprise Forbes & Wallace, proprietors of the leading department-store in Springfield, Mass., inaugurated a prize-con petition for amateur photographers of Springfield and vicinity, March 13 to 20 last. This was the firm's first venture of this kind, and the event was very successful, 421 prints of good quality, by 92 exhibitors, being shown. Forty dollars in cash was distributed among five prize-winners, as follows: First, Miss J. A. Smith; second, Frederick R. Listaire; third, Dr. J. A. Treichler; fourth, Walter E. Corkin; fifth, Chas. D. Todd. The jury was composed of Geo. W. V. Smith, curator of the Springfield Art-Museum, Chas. G. Sheldon, artist-illustrator, and Bayard B. Snowden, author and teacher.

Plans are being made for the 1917 exhibition, the details of which will be announced in a future issue of PHOTO-ERA.

Hughes and the Photographers

THOSE photographers who asked Charles E. Hughes, when he was governor of New York, to use his influence to have what they considered a distasteful law repealed, may have gone away disappointed; but they certainly had reason to admire his wisdom and firmness. Most, if not all of them, will be ready, no doubt, to cast their votes for the man to whom has come an honor in a manner that is unparalleled in the history of American politics.

Magazine-Covers

THOSE who take an interest in pictorial cover-designs, such as formed the subject of our May competition, have probably wearied, long ago, of the inane and silly faces that appear, month after month, on the covers of popular magazines.

Says the New York *Herald:*

"Fully half of these covers contain the portrait of a wax-doll with red cheeks and blue eyes, said to be a young girl. In some cases she stands beside a horse; in others she is alone in her foolishness. A current number of a widely circulated weekly shows her in company with a young man, both grinning idiotically. To illumine her face with the slightest suggestion of mentality would be a gross violation of the most sacred canons of magazine-art. The face of the girl one would like to marry never appears on a news-stand. Nor is it possible to find on any cover a cartoon or a picture to mean something or suggest an idea above the comprehension of a kitten."

It is no compliment to the men of intelligence to whom these anatomically impossible creations are supposed to appeal; and surely there are many American artists who are able to produce pictures that do justice to the typical American girl, to whose beauty and intellect, character and vivacity, writers and painters the world over have paid high tribute.

But why don't the publishers of these imaginary faces use direct photographs of real human beings? Photographs are much better in every way, and can also be printed in colors. Why not take a tip from PHOTO-ERA?

Bromide Paper for X-Rays

BROMIDE paper is being used more and more as a substitute for dryplates. It has many advantages over the latter. Its price is lower and it can be handled more easily, especially the large sizes. Furthermore, the X-ray image obtained on bromide paper is direct instead of being reversed, as is the case with prints made from dryplates. When bromide paper is used for X-ray experiments a whole package can be exposed at a time without opening the envelope. This is accounted for by the simple fact that the X-rays penetrate through the several thicknesses of paper without absorption, giving several prints at once. With glass dryplates this is not possible, because glass is impervious to the largest portion of the rays.—DR. LEO BAEKELAND, *Laboratory of the Nepera Chemical Co., Nepera Park, N. Y., in Wilson's Photographic Magazine, February, 1897.*

He Is Still Busy

The successful one — "The one essential in business nowadays, my dear sir, is — pluck."

The unsuccessful one — "Oh, we all know that. The trouble is to find some one to pluck."— *Exchange.*

How To Become an Art-Critic

ALWAYS admire a Whistler.

If you are introduced to an artist it is no longer considered one of the essentials of good form to talk to him about his own work. If you will lead up to the subject discreetly he will save you the trouble.

It is equally important to avoid admiring anything because "it looks natural." It is safer to scorn all such works as being "photographic."

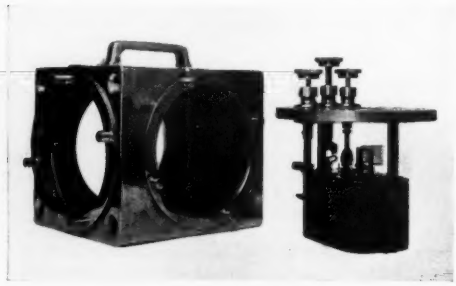
If you wish to direct attention to any particular picture, point with the thumb instead of with the finger. Though the fact is not widely known, most artists acquire this habit, probably, from the constant use of the thumb in manipulating paint or charcoal. To the knowing ones the use of this characteristic gesture will at once place you in the inner circle.

To complete the true professional pose when examining a work of art, it is necessary to throw the head very much to one side and gaze at the picture through half closed eyes. Next, look at the painting through the small opening that is left when the hand is loosely closed. The picture will not show to any better advantage when seen through the hand, and artists rarely adopt this method, but it is one of those ancient superstitions that the veteran connoisseur clings to, and the novice will, therefore, regard it as an essential.

When hard pressed for some comment you can always fall back on the word "interesting." There is something exceedingly professional about this word. It is the haven of refuge of many distinguished critics when describing execrable works by their friends, or by the chief officers of important art-organizations.

The Picture and Art Trade.

Just how the picture-lover is to proceed when viewing a collection of photographs which is remarkable for being obscure of outline and detail, devoid of composition, harmony and taste, and morbid in character, is hard to tell. If no one is present, excepting the visitor, there is no need of advice; but if in case of a one-man show the author is in evidence, it may be well to adopt some of the suggestions offered in the foregoing article.



A Novel Under-Sea Camera

IN the show-window of the Robey-French Company, Boston, Mass., has been displayed recently a distinct novelty in camera-manufacture, constructed under their direction by the Edson Mfg. Co., also of Boston, for Dr. Alfred G. Mayer, Director of the Carnegie Institute. It consists of a heavy copper case, with three circular glass windows and three thumb-screws working through packed boxes, like steam-engine piston-rods, all designed to permit the operation of a No. 0 Graphic camera at a depth of fifty feet under water with a pressure of twenty-eight pounds per square inch. Dr. Mayer intends to use this in the tropics.

A Disappointing Color-Scheme

Auto — "I've heard a good deal about Italia irridenta. What does it mean?"

Chrome — "Only an iridescent dream; that 's all."

Removing Pyro-Stain From Negatives and Fingers

IT occasionally happens that a negative developed in pyro-soda developer has an unpleasant strong brown color and yellow stain when the sulphite used is impure or has become oxidized. This staining is naturally more likely to occur when a dilute tank-developer is employed.

Attempts to remove this color and to convert the negative into one of good neutral tone by treatment with one or other of the various clearing-baths which have from time to time been recommended are usually unavailing.

We have worked out the details of a method which, in our hands, has given good results, and have pleasure in sending you the following particulars, which some of your readers will no doubt find of interest:

The stained negative should preferably be hardened first in a weak chrome alum solution containing one grain per ounce, unless it has been dried before the treatment is applied, as the film tends to become a little more tender in the process. It has then to be soaked for ten minutes in the following bath:

Potassium permanganate	50 grains
Common salt	¼ ounce
Acetic acid (glacial)	1 ounce
Water to	20 ounces

After a brief wash it is transferred to the following solution:

Potassium metabisulphite	1 ounce
Water to	20 ounces

and is kept there until the bleached image is quite white everywhere to the back of the film.

The image is then redeveloped in any non-staining developer, such as amidol or hydroquinone, when a good neutral black deposit with clean shadows is produced. All the processes are performed in daylight without danger of fogging.

The bleaching-solution recommended above appears to require nearly ten minutes to complete its work on a badly stained, heavily coated and dense negative; and as it is impossible to judge by inspection when this part of the process is complete, we recommend the adoption of this length of immersion for all cases. A too brief treatment can be recognized by the persistence of color in the bleached image after immersion in the metabisulphite solution, in which event the bleaching-solution should be reapplied; but up to the present we have not met with a case requiring more than ten minutes in the latter. It is very important that the action of the bleacher should be assisted by constant rocking of the dish.

In conclusion, those who use pyro in quantity will find this bleacher, followed by the metabisulphite solution, an excellent means for removing the unsightly stains from their hands due to pyro oxidation-products, which greatly annoy every professional photographer.

ILFORD, LTD., in *The British Journal of Photography.*

A Studio-Joke

The errand-boy — "What is an auburn-haired lady?"

Receptionist — "Sh! A red-headed woman who has money, my boy."— *Exchange.*

LONDON LETTER

On the day that this letter leaves England, we enter into possession of an extra hour of photographic daylight per day; for the daylight saving order, or "Summer-Time Act," as it is called, is to come into effect on the night of the 20th — 21st of May. Of course, everybody is conscious of the fact that it is only a dodge to get us all up earlier during these light mornings, and so encourage us to go sooner to bed, thereby saving the artificial illuminants, and that individuals could carry out the same scheme for themselves without legislation. But the fact remains that it is a good deal easier of accomplishment if the change is official. And when our clocks all point to eight, and the postman and the milkman arrive and corroborate the illusion, it will take a real lie-a-bed to insist on the untruth of summer-time; and photographers will most assuredly have an extra hour during the day in which the camera can be used. And this in itself is no mean advantage. "But what about exposure-tables!" exclaims the faddist, for he has discovered that noon will no longer be twelve of the clock. Well, he must settle this nice point for himself; but most photographers are not concerned with the mid-day lighting — the ugliest of the whole day — and many are rejoicing that they will be up and about one hour nearer those subtle, delicate tones that are to be seen only at sunrise.

Our photographic airmen have scored another success. Lord Hugh Cecil, who himself is an accomplished flyer, stated in the House of Commons during the aircraft debate that, besides having a machine-gun (the Lewis) that was envied all over Europe, our photographic work in the air was undoubtedly superior to that of the Germans. For obvious reasons, the public is allowed to know very little about this photography; but from time to time one hears, through photographic channels, of friends — who in the old days we connected with bromoil, or gum, or color-work, according to their particular bent — now being employed in one of the many delicate and technical operations connected with air-photography. It is to be hoped that, after the war is over, the authorities will allow the publication of some of these map-like impressions that daily pour into Headquarters, and are of such immense importance in modern warfare.

It is quite impossible to keep the war out of photographic notes these days. There is no phase of life all over the country that is not profoundly modified or in some way altered by the world-contest. How could it be otherwise when we have over four million men, drawn from every grade of society and almost every family, absorbed in the fighting and its auxiliary services. There may be photographers who still seek their recreation far from prohibited areas, portraying peaceful sylvan scenes. Personally, we have not come across them. The vast majority seize any spare moments at their disposal to record in a thousand different ways the war-influence as it is to be seen on every hand. This is work that needs doing, and can be done in no better way than by photography. As an instance and a sidelight on the fundamental changes being wrought in the people, we enclose two little prints. They represent a young friend of the writers of these notes. Before the war she was just a practical modern English girl, following the ordinary feminine pursuits like thousands of others. Now she has replaced a man of fighting age, and is rearing poultry and cultivating a garden. The changed conditions need different clothes, and no doubt produce a different and a broader view of life. So it is on all sides, and we photographers can but record in black and white the exterior alterations; but for the physiological and pyschological results of such drastic changes we must patiently wait till the war is over.

If anything, our military regulations with regard to photography are getting even more stringent. Even our popular Australian Premier's secretary has been getting into trouble. Mr. Shepherd, the private secretary, is a keen amateur photographer, and last week, when motoring back from Mr. Lloyd George's overflow meeting at Conway, he was struck with the Conway Bridge, and stopped the car to photograph it. He wanted only a snapshot with his hand-camera, but he got out of the car to take it from a good position and immediately one of the sentries was down on him. Mr. Shepherd explained who he was, and the innocence of his intentions, but all to no purpose. He was marched off under arrest to the guard-room. Subsequently, Mr. Hughes himself appeared on the scene and got his secretary released; but the films had to be sacrificed, as the officer in charge insisted on their being destroyed.

This severity over cameras was brought home to us this last week-end, which we spent by the sea. In ordinary times we should as soon think of traveling without a tooth-brush as without a camera, and from sheer force of habit we packed one of pocket-size. The very first evening our landlady asked to speak to us, and informed us in a hushed and nervous voice that the chambermaid had informed her that we had something illegal amongst our luggage, and it had been seen carelessly hung on a chair. By her manner it might have been a bomb, at least, that had been discovered, and we felt, indeed, guilty people. It appears that the latest rule is that no camera may be kept within two miles of the coast, so our little pocket-edition had to spend its holiday securely locked up in our box.

Carine and Will A. Cadby

Fine Show Held in Bangor, Me.

The Fotocraft Society, of Bangor, Me., held its fourth annual exhibition in the Fine Arts Gallery, Public Library, May 15 to 27, 1916. Among the prominent exhibitors were Paul L. Anderson, Charles J. Adams, Alice Boughton, Dr. George Buttler, Dwight A. Davis, William S. Davis, Gurdon R. Fisher, John H. Garo, Dr. Norman B. Humphrey, Charles B. Keeler, Dr. Rupert S. Lovejoy, Henry A. Peabody, Hubert F. Porter, W. H. Porterfield, J. Will Palmer, Jane Reece, Karl Struss, Edward H. Weston, Clarence H. White.

The photographers who were represented by paintings were Mr. Garo, whose well-known picture "Early Spring" excited general admiration; and William S. Davis, with five marines and landscapes of eminently delightful quality.

But why "Fotocraft," and not "Photocraft," gentlemen?

Our "Miscellaneous" Quarterly Competitions

Many workers produce occasionally pictures of exceptional merit and interest which do not seem to fit any classified subject in the Photo-Era monthly competitions as announced from month to month. Instead of being held for a suitable competition that may not occur for a long time, such pictures may be entered in the competition for miscellaneous subjects to be held quarterly, beginning with February, 1917. One was held in May, this year.

The rules, including the award of prizes, that govern the regular Photo-Era competitions for advanced workers will apply to these quarterly competitions which are to be known as "Miscellaneous."

WITH THE TRADE

America First!

THIS slogan is an admirable one for all Americans, despite the selfish spirit it implies. America first, by force of circumstances; hence little pleasure and profit by travel in the warring countries of Europe for the present! The war compels us to be less dependent on other countries than formerly. We must look to our own resources in productive ability and foreign commerce, where we are beginning to discover prospects of profit and satisfaction to a wonderful degree.

Hence, too, the varied beauty and grandeur of American scenery is receiving unusual attention. Enterprise is busy exploiting its wonders and charms, and already the hotels and railroads behold visions of enormous profits. But a visit to and a sojourn in these far-off garden-spots are attended by enormous expense, and the alternatives are to go or to stay at home.

A midway-course would be a visit to beautiful, historic and comfortable New England, where traveling- and living-expenses are relatively low. Send for booklet and map, giving names of hotels, boarding-houses, farms, camps and cottages, Room 15, North Station, Boston, Mass., and be convinced!

A Ballground Advertising-Novelty

MUCH of the success of present-day advertising depends upon the cleverness or originality of the idea, and it is refreshing occasionally to learn of a particularly notable instance in the photographic field. A case in point occurred at the opening of the baseball-season in Wichita, Kan., when a local studio-proprietor arranged to have a large sign erected on the grounds during the game, one board at a time, from the bottom upward. When completed, shortly before the end of the game, the announcement read:

FRED H. REED
PHOTOGRAPHER
PORTRAITS ONLY

The erection of this sign vied with the game itself in interest, and many bets were made as the work progressed as to the identity of the advertiser. In the presence of four thousand persons this novelty proved to be excellent publicity at a cost of $25.

A New Kind of Gem

THE proprietor of the jewelry-counter in A. S. Hawes & Co.'s photo-shop, on Boylston Street, was showing a customer an exquisite aquamarine recently. During a pause in the description of the aquamarine, given by the gem-expert, a German sailor of the *S. S. Amerika*, interned in Boston harbor, who had just purchased a camera of Mr. Hawes, stepped up and said:

"Excuse me, sir; but vaht iss de brice off dat beautiful submarine?"

Photography and Shakespeare

IN recognition of the Shakespeare tercentenary, now being observed universally, F. M. Somers, the eminent portrait-photographer of Cincinnati, has issued in pamphlet form halftone-reproductions of "The Seven Ages of Man," accompanied by quotations from Shakespeare's comedy "As You Like It." The originals are the series of photographs made from living models by James Landy, one of the old masters in photography, which won for him universal distinction, and which hang in the Shakespeare Memorial Library in Stratford-on-Avon. Price of the pamphlet, postpaid, is 30 cents.

Graflex 1916

A NEW and beautiful catalog has just been issued by the Folmer & Schwing Division of the Eastman Kodak Company, Rochester, N. Y., which will interest every speed-work enthusiast. Procure a copy of your local dealer or write direct to the manufacturer. Printed on

excellent paper and attractively embellished, this catalog presents many examples of picture-making difficult to accomplish successfully with any other type of camera. While the Graflex line remains substantially unchanged one notices the addition of a 5 x 7 Compact Graflex, a model which proved especially popular in the original 3¼ x 5½ size. Those to whom the Autographic feature of roll-film has made appeal will find that it has been incorporated in the 1A and 3A models. And the attention of professional workers is particularly directed to the obvious merits of the Home-Portrait Graflex.

He Never Advertised in Photo-Era

Isaacs — "Cohen is going to retire from business for fife yearrs."

Abrams — "Oh, I hert him say dat before."

Isaacs — "Yes; but dis time der chutch of de court said it." — *Princeton Tiger.*